Appendix: Monitoring programs adjacent to Northeast Temperate Network Parks

The Northeast Temperate Network established a task agreement with the State University of New York at Syracuse to search for data ("data-mine") on existing monitoring programs in the vicinity of the Network's 11-parks. The intent of the project was to increase our awareness of existing monitoring activities around each park unit and to identify potential partnerships that may benefit the network prior to implementation of the NETN Vital Signs monitoring program. By synthesizing, reviewing, and summarizing the existing monitoring programs around NETN parks we hope to avoid redundancy in program development. The information identified through this project will provide the network with a foundation for future scoping workshops, protocol development, and integration of NPS monitoring with other ongoing programs. This project was accomplished through literature review, web-based queries, contacts with NPS resource mangers, and interviews/solicitations with regional professionals involved in monitoring natural resources.

Information gathered through this effort resides in an MS-Access database developed by the NETN data manager. The database is designed to allow future users to quickly add new programs, review and edit already entered programs, and generate reports that list programs associated with each park.

The listings identified on the following pages represent a 'working' collection of the programs that the Northeast Temperate Network knows to exist. While we have made a concerted effort to ensure that our data-mining activities have been thorough and complete, we also recognize that there are more programs to discover. Accordingly, this list should not be viewed as a definitive listing of all programs that are near our parks. Some parks present greater challenges than others. For example, the Appalachian Trail passes through multiple states, geographic regions, ecological units, as well as other categorizing features and the number of potential monitoring programs that may be operating in the vicinity of the Appalachian Trail in one or more of these units is potentially staggering. Consequently, any listing of programs that are in close proximity to the Appalachian Trail, or any other park, only represents that portion of all programs that are better known and easily discoverable.

Acadia National Park

Center for Sponsored Coastal Ocean Research

ECOHAB Ecology and Oceanography of Harmful Algal Blooms

Gulf of Maine

Project Objective(s): goal of the ECOHAB program is to develop reliable models to forecast bloom development, persistence, and toxicity.
This research will foster rapid response by monitoring agencies and health departments to safeguard public health, local economies, and fisheries.
Further, identification of bloom-favorable conditions may permit management of specific environmental factors to reduce bloom impacts.

Project Measures: Algae

Web Link(s): http://www.cop.noaa.gov/Fact_Sheets/ECOHAB.html

U.S. Global Ocean Ecosystem Dynamics (GLOBEC)

GLOBEC Georges Bank

Project Objective(s): Distribution and Status of High Priority Species.
The proximate goal of the Georges Bank program is to understand the population dynamics of key species on the Bank - cod, haddock, and two species of zooplankton.
goal is to be able to predict changes in the distribution and abundance of these species as a result of changes in their physical and biotic environment as well as to anticipate how their populations might respond to climate variability and change.

Project Measures: water quality; fish distribution and abundance

Web Link(s): http://www.cop.noaa.gov/Fact_Sheets/GLOBECNWA.html

Gulf of Maine Council on the Marine Environment

Environmental Quality Monitoring Committee

Gulfwatch

Project Objective(s): Water Quality Data
assess the types and concentration of contaminants in coastal waters of the Gulf of Maine.

Project Measures: Molluscan contamination; water quality; chemical contaminants

Web Link(s): http://www.gulfofmaine.org/
http://www.gulfofmaine.org/council/committees/eqmc/gulfwatch/default.asp

Gulf of Maine Ocean Observing System

Gulf of Maine Ocean Observing System

Project Objective(s): Routine observing of ocean waters designed to bring hourly oceanographic data from the Gulf of Maine to all those who need it.

Project Measures: Weather; Wind; Wave height; Salinity; Visibility; Temperature

Web Link(s): http://www.gomoos.org/

Institute for Bird Populations

Monitoring Avian Productivity and Survivorship

Avian Inventory Program

Project Objective(s): indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured.
estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from mark-recapture data on adult birds.

Project Measures: avian distribution and abundance

Web Link(s): http://www.birdpop.org
http://www.birdpop.org/avianinv.htm
http://www.birdpop.org/maps.htm

Maine Audubon

Important Bird Areas (IBA)

Project Objective(s): identify and prioritize the most important areas for bird conservation in the state of Maine.
assist as needed in planning for the conservation and management of these bird-rich areas.

Project Measures: avian distribution and abundance; breeding; threatened & endangered
Habitat usage

Web Link(s): http://www.maineaudubon.org/conservation/iba/index.html

Least Tern and Piping Plover

Project Objective(s): For more than 20 years, we have worked to conserve state endangered least terns and piping plovers, two small birds that nest on Maine's beaches.
We use wire exclosures to keep predators away from plover nests and stake-and-twine to keep people and dogs away from nesting areas of both plovers and terns and night patrols at largest least tern colony.

Project Measures: shorebird nesting activity

Web Link(s): http://www.maineaudubon.org/
http://www.maineaudubon.org/conserve/overview.shtml

Loons and Lakes

Project Objective(s): Determine the population status of loons in Maine.
Efforts to allow municipalities the flexibility to develop watercraft restrictions on lakes within their jurisdictions, and to spread the work on the potentially lethal dangers posed to loons of fishing with lead sinkers and jigs.

Project Measures: waterfowl reproductive success

Web Link(s): http://www.maineaudubon.org
http://www.maineaudubon.org/conserve/overview.shtml

Maine Amphibian Monitoring Project

Project Objective(s): determining preliminary population trends for many of Maine's frogs and toads.

Project Measures: Amphibian distrbution and abundance | breeding | Amphibian egg mass count
Frog populations | Frog calls | Habitat usage

Web Link(s): http://www.maineaudubon.org/

Maine Owl Monitoring Program

Owl Survey and Monitoring

Project Objective(s): To learn more about the fluctuations in owl populations in our state and ultimately to ensure that each species remains an integral part of our ecosystem.
The Maine Cooperative Owl Surveys in 2002 and 2003 allowed us to analyze a large amount of data that helped us identify the best times to survey for owls.

Project Measures: avian distribution and abundance | Habitat usage

Web Link(s): http://www.maineaudubon.org/conserve/citsci/owl.shtml
http://www.maineaudubon.org

Maine Audubon

Project Puffin

Project Objective(s): The National Audubon Society started Project Puffin in 1973 in an effort to learn how to restore puffins to historic nesting islands in the Gulf of Maine.
Between 1973 and 1986, 954 young puffins were transplanted from Great Island, Newfoundland to Eastern Egg Rock and 914 of these successfully fledged. Transplanted puffins began returning to Eastern Egg Rock in June of 1977.
In 1981, four pairs nested beneath boulders at the edge of the island (Eastern Egg Rock) and the colony has since increased to 37 pairs in 2001.
In 1984, National Audubon Society and the Canadian Wildlife Service began a similar puffin restoration project at Seal Island National Wildlife Refuge in outer Penobscot Bay.
Seven pairs returned to nest in 1992 and the colony has rapidly increased to 145 pairs by 2001.

Project Measures: avian distribution and abundance | Habitat usage | shorebird nesting activity

Web Link(s): http://www.audubon.org/bird/puffin/what.html
http://www.maineaudubon.org/

Vernal Pools

Project Objective(s): Vernal pools are small, usually ephemeral wetlands that are essential breeding sites for 4 of Maine's species: wood frogs, spotted and blue-spotted salamanders, and fairy shrimp.
inventory and study vernal pools in southern, central, and northern Maine.

Project Measures: Wetland community composition and distribution | breeding

Web Link(s): http://www.maineaudubon.org/
http://www.maineaudubon.org/conserve/overview.shtml

Maine Department of Conservation

Maine Natural Areas Program

Aquatic Vegetation Surveys of Selected Maine Lakes

Project Objective(s): If particularly outstanding examples of vegetation communities are identified, that information could be used to identify lakes and watersheds most in need of protection through mechanisms such as the Land for Maine's Future Board.
This project will help establish important baseline data on the structure and composition of near shore aquatic plant communities in selected Maine lakes.
the work will serve as a pilot project which will guide conservation groups, interested citizens, and others in developing strategies to monitor the vegetation of the state's lakes.

Project Measures: aquatic plant community composition | water quality | shoreline disturbance

Web Link(s): http://www.state.me.us/doc/nrimc/mnap/programs/aquatics.html
http://www.maine.gov/dep/blwq/docmonitoring/lake/index.htm
http://mainevolunteerlakemonitors.org/index2.htm

Furbish Lousewort

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: rare plant distribution and abundance

Web Link(s): http://www.state.me.us/doc/nrimc/mnap/programs/oldflmonitr.htm
http://www.state.me.us/doc/nrimc/mnap/programs/programs.html

Management of Invasive Non-native Plants in Maine

Project Objective(s): assess and track the most invasive plant species in Maine.
educate landowners, land managers, nursery groups, and the general public about native alternatives to non-native plants for use in gardening, landscaping, and restoration work.
generating educational materials on the ecology and management of at least five of the most invasive non-native plants in Maine.

Project Measures: disease/pest conditions

Web Link(s): http://www.state.me.us/doc/nrimc/mnap/programs/invasives.html
http://www.state.me.us/doc/nrimc/mnap/home.htm

Maine Department of Conservation

Maine Natural Areas Program

Natural Communities

Project Objective(s): Distribution and Status of High Priority Species.
Maine Natural Areas Program has been trying to improve the quality and quantity of data on natural community occurrences in Maine.

Project Measures: rare plant distribution and abundance; Rare community distribution and composition

Web Link(s): http://www.state.me.us/doc/nrimc/mnap/fieldforms/formsexp.html
http://www.state.me.us/doc/nrimc/mnap/home.htm

Natural Heritage Program

Vegetation Mapping of Acadia NF Internal

Project Objective(s): Vegetation Mapping.

Project Measures: Land use

Web Link(s): http://www.state.me.us/doc/nrimc/mnap/home.htm

Maine Department of Environmental Protection

Maine River and Streams

Stream Team Program

Project Objective(s): A stream team is a group of who people who have banded together to promote stewardship of their local stream.

Project Measures: water quality

Web Link(s): http://www.state.me.us/dep/blwq/docstream/team/streamteam.htm

Surface Water Ambient Toxic Monitoring Program

Project Objective(s): comprehensively monitor the lakes, rivers & streams, marine & estuarine waters of the State on an ongoing basis.
Incorporate testing for suspected toxic contamination in biological tissue & sediment, may include testing of the water column & must include biomonitoring & the monitoring of the health of individual organisms that may serve as indicators of toxic contamination.
collect data sufficient to support assesment of the risks to human & ecological health posed by the direct and indirect discharge of toxic contaminants.

Project Measures: Tissue contaminant load; Sediment contaminant composition; Water column contaminant composition; mercury monitoring; Molluscan contamination

Web Link(s): http://www.state.me.us/dep/blwq/docmonitoring/swat/2001swatexsum.pdf
http://www.maine.gov/dep/blwq/docmonitoring/swat/index.htm

Maine Department of Inland Fisheries and Wildlife

Birds

Maine Colonial Waterbird Inventory: 19 species

Project Objective(s): These birds are extremely vulnerable to human disturbance during the spring and early summer nesting season; close monitoring of nesting colonies is warranted.

Project Measures: waterfowl reproductive success

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/birdgroup.htm

Maine Department of Inland Fisheries and Wildlife

Birds

Marshbird Surveys

Project Objective(s): Several species of wetland-associated birds are found in Maineby broadcasting tape recordings of their vocalizations, the presence of many of these species in a marsh can be confirmed.
In 2002, we completed the second and final year of our fieldworkto evaluate the distribution and relative abundance of 10 wetland bird species in the Boundary Plateau and St. John Upland regions of northwestern Maine.
least bittern, yellow rail, and common moorhen are currently listed as special concern in Maine. Additional information about these species would help clarify their status, and may lead to habitat management strategies to aid in their conservation.

Project Measures: avian distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/birdgroup.htm

Migratory Shorebird Surveys

Project Objective(s): In May 2001:1) Maintain or enhance vital shorebird staging and wintering habitats in Maine; and 2) Maintain or enhance nesting, feeding, and roosting habitats to support viable breeding shorebird populations in Maine.
To determine seasonal movements and site fidelity a combined effort to develop techniques to capture and band purple sandpipers on Maine's offshore ledges began in April 2002, cont. in Dec 2002-May 2003.

Project Measures: avian distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/birdgroup.htm

Ruffed Grouse

Project Objective(s): Despite its importance as a quality game bird in Maine, little management and research effort is devoted to this species because of limited dollars and personnel time.

Project Measures: game animal distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/upbird.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Rusty Blackbird

Project Objective(s): We surveyed 188 sites among 84 townships during the two field seasons. Despite this amount of effort, we detected this species at only 18 of the 188 sites during summers of 2001 and 2002.
Evidence of successful breeding was limited as most observations were of individuals, but we observed multiple birds at 6 of 18 occupied sites as well as a fledged brood at one site.
Results of our surveys will form a base from which the first steps toward a monitoring program could be taken.

Project Measures: avian distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/birdgroup.htm

Maine Department of Inland Fisheries and Wildlife

Birds

Sharp-tailed Sparrows

Project Objective(s): The sharp-tailed sparrows, Nelson's and saltmarsh sharp-tailed sparrows, are restricted to coastal marshes for every aspect of their life cycle.
In 2001, we completed field work on the ecology of sharp-tailed sparrows at Scarborough Marsh Wildlife Management Area.
Specific analyses in the past year have included developing a standardized method for monitoring these species.
Field work on these species has been limited with more work anticipated in 2003 to further evaluate the degree of exposure of these species to mercury.

Project Measures: avian distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/birdgroup.htm

Turkey

Project Objective(s): the Department's goal is to have a viable wild turkey population wherever suitable wild turkey habitat exists.

Project Measures: game animal distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/upbird.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Waterfowl

Project Objective(s): Habitat protection and enhancement efforts are another form of management that the Department is using to increase waterfowl breeding populations.
Waterfowl are now being managed to increase certain breeding populations.

Project Measures: waterfowl reproductive success

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/waterfowl.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Black Tern

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: avian distribution and abundance; shorebird nesting activity

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm

Ecoregional Survey

Project Objective(s): identifies known locations of all natural features and wildlife habitats.

Project Measures: Habitat classification/profiling; Mapping; rare vertebrate distribution and abundance; rare invert distribution; rare plant distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm

Endangered and Threatened Species

Butterflies

Project Objective(s): Distribution and Status of High Priority Species

Project Measures: lepidopteran distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Maine Department of Inland Fisheries and Wildlife

Endangered and Threatened Species

Dragonflies

Project Objective(s): Distribution and Status of High Priority Species

Project Measures: odonate distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://mdds.umf.maine.edu/~odonata/.
http://www.state.me.us/ifw/wildlife/wildlife.htm

Freshwater Mussels

Project Objective(s): document the occurrences of the State's freshwater mussels; learn about their life histories, habitat requirements, and conservation needs; and conserve habitat for Maine's rarer species.
In 2002, MDIFW continued collaboration on a research project to advance the understanding and conservation of Maine's two rarest freshwater mussel species _ the yellow lampmussel and tidewater mucket.
From 1992-97, MDIFW conducted a statewide survey to determine the status, abundance, and distribution of the State's freshwater mussels.

Project Measures: molluscan distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Maine Amphibian and Reptile Atlasing Project

Project Objective(s): Distribution and Status of High Priority Species.
From 1986-1990 over 250 volunteers from around the state contributed approximately 1,200 records of observations of amphibians and reptiles.
MDIFW continues to maintain a statewide database for amphibians and reptiles.

Project Measures: herptile distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Partners in Amphibian and Reptile Conservation

Project Objective(s): MDIFW participates in PARC meetings designed to improve communication on efforts to conserve threatened herptile species in the Northeast, and to identify new projects of regional priority for implementation.

PARC's mission is to forge partnerships among diverse public and private organizations in an effort to stem recent declines of amphibian and reptile (herptile) populations worldwide.

Project Measures: Amphibian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.parcplace.org/

Vernal Pools

Project Objective(s): Water Body Location and Classification
learn about why some vernal pools receive greater wildlife use than others.
wildlife use and characteristics of vernal pools in three southern Maine townships: Biddeford; Kennebunkport; and, North Berwick.

Project Measures: Amphibians | aquatic plant community composition | Frog populations | waterfowl reproductive success

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Maine Department of Inland Fisheries and Wildlife

Endangered and Threatened Species Study

Amphibian Monitoring

Project Objective(s): determining preliminary population trends for many of Maine's frogs and toads.

Project Measures: Frog populations | Frog calls

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Bald Eagle

Project Objective(s): Habitat "safety net" to maintain species recovery including at least 50 nesting areas under conservation ownership or appropriate easements.
At least 100 additional areas under conservation ownership, appropriate easements, or cooperative agreements with private landowners.

Project Measures: avian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Blandings and Spotted Turtles

Project Objective(s): More than 80 turtles were marked or radio-tagged to gather information on nesting and hibernation sites, movements, and the types of wetlands used.
Most significantly, her work demonstrated the importance of small pocket swamps and vernal pools as productive foraging and breeding habitats, with individual turtles often requiring multiple wetlands within a single activity area.
MDIFW is committed to working with landowners and towns to help conserve remaining large blocks of habitat needed to sustain viable populations of these rare turtles.

Project Measures: chelonian population viability

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/et.htm

Golden Eagle

Project Objective(s): MDIFW will work cooperatively with landowners to maintain suitable habitat at the few eyries once used by goldens.

Project Measures: avian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Grasshopper Sparrows

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: avian distribution and abundance

Web Link(s):

Peregrine Falcon

Project Objective(s): A total of 144 young peregrines produced in captive-breeding programs were successfully released at 8 different locations in Maine during 1984-1997.
1989 - 2001, but numbers of nesting peregrines did not change appreciably: 5 - 8 eyries were inhabited each year.
in 2002. The statewide breeding population doubled in a single year. Peregrines inhabited 15 eyries, and 26 young peregrines fledged from ten of those eyries.
Diligence by land managers has been crucial to maintaining eyries favored by peregrines.

Project Measures: avian distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Maine Department of Inland Fisheries and Wildlife

Endangered and Threatened Species Study

Wood Turtles

Project Objective(s): About 40 radio-tagged turtles were tracked and the nests located, and documented their movements and habitat use.
summer temperature influences hatching success of wood turtles - a critical factor influencing population viability at the northern edge of the specie's range.
Now studying the conservation genetics of wood turtles.
at the state level, several of Maine's major watersheds host unique wood turtle populations that have been isolated from one another over hundreds or thousands of years.

Project Measures: Reptile distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Mammals

Black Bears

Project Objective(s): Distribution and Status of High Priority Species.
The Department's goal, chosen with public input, is to maintain the bear population at its current level.

Project Measures: game animal distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/mamm.htm
http://www.state.me.us/ifw/wildlife/03report/bbear.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Coyote/Wolf

Project Objective(s): a genetic study to clarify whether Maine's coyotes are true coyotes or coyote/wolf hybrids, and to determine whether our coyotes can be distinguished from eastern Canadian wolves.
Information from this research will help our Department better understand how to approach enforcement issues concerning the incidental killing of wolves by trappers or snarers, and may give insight into the behavior of our coyotes.
this research will be an essential step in determining whether it is feasible or desirable to recover wolves in Maine and the rest of the Northeast.

Project Measures: game animal distribution and genetic markers
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/furbear.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Marten

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: game animal dstribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/furbear.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Moose

Project Objective(s): Distribution and Status of the species.

Project Measures: game animal distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/mamm.htm
http://www.state.me.us/ifw/wildlife/03report/moose.htm

Maine Department of Inland Fisheries and Wildlife

Mammals

New England Cottontail

Project Objective(s): A cooperative Master's project between MDIFW and Dr. John Litvaitis, University of New Hampshire, was started in the Fall of 1999.
(1) determine the current distribution of New England cottontails in Maine using snowtrack, fecal pellet, and live trapping surveys.
(2) characterize the attributes of sites occupied by New England cottontails in Maine.
(3) develop a monitoring protocol capable of detecting status changes of New England cottontails in Maine.
Having a clear set of management goals for New England cottontail is critical at this time, since the species is on the verge of being listed as either a Threatened or Endangered species by the U.S. Fish and Wildlife Service.

Project Measures: Mammalian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/mamm.htm
http://www.state.me.us/ifw/wildlife/03report/furbear.htm

Whitetail Deer

Project Objective(s): we have set population objectives of 15 or 20 deer/mi2 for each central and southern Maine WMD.
In northern and eastern Maine, the road to a more abundant deer population must involve increasing and restoring some of the deer wintering habitat that was lost during the past 3 decades.

Project Measures: game animal dstribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/deer.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Partners in Flight

Grassland Birds & Monitoring/Atlasing

Project Objective(s): Distribution and Status of High Priority Species.
Grassland Bird Focus Group: 1: inventory all the significant populations of grassland birds in Maine with Upland Sandpipers and Vesper Sparrows as primary targets.
Grassland Bird Focus Group: 2:to ensure that Conservation Reserve Program lands are maintained in early successional cover and thus continue to provide habitat for grassland birds.
Monitoring/Atlasing: to improve monitoring for species that are inadequately surveyed by the North American Breeding Bird Survey.

Project Measures: avian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/pif/index.htm
http://www.state.me.us/ifw/wildlife/pif/focus/index.htm

Penobscot Meadow Vole

Project Objective(s): Distribution and Status of High Priority Species

Project Measures: Mammalian distribution and abundance

Web Link(s):

Roseate Tern

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: shorebird nesting activity

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm

Tomah Mayfly

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: invertebrate range and distribution

Web Link(s):

Maine Department of Inland Fisheries and Wildlife

Wildlife Division

Canada Lynx

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: Mammalian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/furbear.htm - Sliverskip
http://www.state.me.us/ifw/wildlife/03report/wildlifeplanning.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Wood Cock

Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: game animal distribution and abundance
Web Link(s):

Maine Department of Marine Resources

Finfish Aquaculture Monitoring Program

Project Objective(s): The diver survey is intended to provide an overall assessment of environmental conditions under and adjacent to finfish operations and to determine if additional monitoring, compliance, or enforcement actions are needed.
Benthic infauna monitoring is used to determine attainment of Maine's marine and estuarine life (infauna) and habitat suitability according to 38 M.R.S.A., Article 4-A, Water Classification Program narrative standards.

The objective of monitoring dissolved oxygen is to determine attainment of Maine's marine dissolved oxygen standards (M.R.S.A. 38, Article 4-A, section 465-B).
Project Measures: water quality Dissolved Oxygen marine and estuarine life bottom conditions
Web Link(s): http://www.state.me.us/dmr/aquaculture/famp01.htm

Maine Phytoplankton Monitoring

Project Objective(s): For the success of Maine's shellfish resources, there needs to be an active monitoring program that can pick out and observe toxic phytoplankton.
Alexandrium spp., Dinophysis spp.,Prorocentrum spp., or Pseudonitzschia spp. May "bloom" in a given area when conditions are right, and an active monitoring project may be extremely effective in promoting shellfish safety.
Project Measures: Phytoplankton density
Web Link(s): http://www.ume.maine.edu/ssteward/phyto.htm

Maine Shore Stewards

Shellfish Sanitation Program
Project Objective(s): Volunteers collect water samples in shellfish growing areas for analysis of fecal coliform at state laboratories. The data is used by the DMR to decide whether shellfish areas have water quality acceptable for harvesting.
Project Measures: Fecal coliform
Web Link(s): http://www.ume.maine.edu/ssteward/dmr.htm

Maine Forest Service

Forest Health Monitoring

Pine Shoot Beetle/Hemlock Woolly Adelgid
Project Objective(s): protect the forest, shade and ornamental tree resources of the state from significant insect and disease damage.
to provide pest management and damage prevention for homeowners, municipalities, and forest land owners and managers.
Project Measures: disease/pest conditions
Web Link(s): http://www.state.me.us/doc/mfs/psb.htm
http://www.state.me.us/doc/mfs/idmhome.htm
http://www.state.me.us/doc/mfs/idmhwa.htm

Maine Sea Grant

Maine Phytoplankton Monitoring

Paralytic Shellfish Poisoning Monitoring Program
Project Objective(s): Thirty trained citizen volunteers monitor thirty-seven sites from Kittery to Calais weekly and report on the phytoplankton cells that they find.
The volunteers also alerted the DMR to the presence of Alexandrium, which, to date, has resulted in two regions being tested for toxicity levels and subsequently closed to shellfish harvesting in 2001.
Project Measures: Algal Blooms ("Red Tide") Alexandrium Phytoplankton
Web Link(s): http://www.seagrant.umaine.edu/Extension/Ecosystem%20Health/shore%20stewards/phyto/HAB.htm

Maine State Planning Office

Maine Shore Stewards

Coastal Swim BEACH Monitoring

Project Objective(s): Community based groups will take water samples at coastal swim beaches for bacteria, an indicator of recreational water-borne illnesses.

Project Measures: Bacteria; water quality

Web Link(s):
http://www.state.me.us/dep/blwq/docbeach/coastalswimbeach.htm
http://www.state.me.us/dep/blwq/docbeach/coastalfactsheet.pdf
http://www.state.me.us/dep/blwq/beach.htm
http://www.ume.maine.edu/ssteward/programs.htm

Maine Tribal Community / U.S. Environmental Protection Agency

Penobscot Air Program

Project Objective(s): control pollutant emissions from automobiles, factories, and other sources.

Project Measures: Carbon monoxide; nitrogen dioxide; Ozone; Lead; particulate matter; sulfur dioxide

Web Link(s):
http://www.penobscotnation.org/DNR/Air%20news/overview.htm
http://www.penobscotnation.org/DNR/air_index.htm
http://www.penobscotnation.org/DNR/DNR1.htm

Marine Environmental Research Institute

Toxic Chemicals in Gulf of Maine Seals

Project Objective(s): Water Quality Data

Project Measures: Tissue contaminant load

Web Link(s): http://www.meriresearch.org/research/index.html

National Atmospheric Deposition Program

Atmospheric Integrated Research Monitoring Network (AIRMoN)

AIRMonN-Wet & AIRMoN-Dry

Project Objective(s): Determining the effectiveness of emission controls mandated by the Clean Air Act.
Evaluating the potential impacts of new sources of emissions on protected areas such as Class I Wilderness Areas.
Identifying source/receptor relationships in atmospheric models.
AIRMoN was designed to provide data with a greater temporal resolution.

Project Measures: Precipitation composition; nitrogen; Ozone; sulfur dioxide; gaseous nitric acid

Web Link(s): http://nadp.sws.uiuc.edu/airmon/

Mercury Depostion Network (MDN)

Project Objective(s): The objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition.
The data will be used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Project Measures: mercury monitoring; Precipitation composition; methylmercury

Web Link(s): http://nadp.sws.uiuc.edu/mdn/

National Oceanic and Atmospheric Administration

Marine Monitoring Programs in the Gulf of Maine

MARMAP

Project Objective(s): 1)Assess the seasonal, interannual, and decadal variability in the planktonic and oceanographic components of the Northeast Shelf Ecosystem.
2) characterize changes in these variables as an indication of broad-scale ecological and environmental changes.
3) develop appropriate indices of the changing states of the marine ecosystem.

Project Measures: Phytoplankton; Zooplankton abundance and compostion; Water column temperature; Surface salinity; Meteorological conditions

Web Link(s):
http://www.stat.psu.edu/~gpp/marmap_system_partnership.htm
http://gulfofmaine.org/library/pdf/mon_inventory.pdf
http://gulfofmaine.org/library/monitoring_inventory.html

National Estuarine Research Reserve System

Biological

Project Objective(s): Biological monitoring is used for detecting the health of aquatic environments and assessing the relative severity of the pollution impacts.

Project Measures: Chlorophyll a; Submerged aquatic vegetation; Emergent vegetation

Web Link(s): http://nerrs.noaa.gov/Monitoring/Biological.html

System-wide Monitoring Program

Project Objective(s): tracks short-term variability and long-term changes in estuarine waters to understand how human activities and natural events can change ecosystems.
The reserve system currently measures physical and chemical water quality indicators, nutrients and the impacts of weather on estuaries.

Project Measures: Land use; water quality (physical and chemical indicators)

Web Link(s): http://nerrs.noaa.gov/Monitoring/

Water Quality

Project Objective(s): Indicators of habitat quality for numerous estuarine species and to determine health criteria and human uses.

Project Measures: Water Temperature; Water Depth; Salinity; pH; Dissolved Oxygen; Turbidity

Web Link(s): http://nerrs.noaa.gov/Monitoring/Water.html

National Status and Trends Program

Mussel Watch

Project Objective(s): This project is designed to monitor the status of and temporal changes in metal and organic contaminants in Great Lakes, estuarine and coastal waters using bivalve molluscs as sentinel organisms.

Project Measures: Crustacean contaminat loads; PAH; PCB; Pesticide; Trace Elements; Reproductive development; disease/pest conditions; Size frequency

Web Link(s): http://vertigo.hsrl.rutgers.edu/NST.html
http://nsandt.noaa.gov/

National Benthic Surveillance Project

Project Objective(s): To determine the current status of and to detect any long-term trends in the environmental quality of the nearshore waters of the United States.
The primary objective was to determine concentrations of more than 70 organic and inorganic contaminants in the liver and bile of bottom dwelling fishes and associated surficial sediment from coastal and estuarine waters.

Project Measures: Bile and liver contamination loads; PAH; PCB; Butyltins; DDT and metabolites; Chlorinated pesticides

Web Link(s): http://nsandt.noaa.gov/

Penobscot Nation Dept of Natural Resources

Forest Management

Forest Management Plan

Project Objective(s): Preserve and protect water quality on the trust lands; Preserve and enhance the long-term productivity of the forest resource.
Provide for the protection of the forest resource from insects, disease, fire, trespass and invasive species. Identify and protect significant natural resources located on the trust lands; including but not limited to fisheries and important wildlife habitat such as deer wintering areas, habitat for threatened and endangered species and vernal pools.
Identify and protect significant cultural and archaeological resources on the trust lands; Where appropriate, emphasis the management of the forest to maintain and improve the populations of moose and white-tailed deer.

Project Measures: water quality; archaeological resources; disease/pest conditions; Habitat usage; Land use

Web Link(s): http://www.penobscotnation.org/DNR/forest_management_goals.htm
http://www.penobscotnation.org/DNR/DNR1.htm
http://www.penobscotnation.org/DNR/forestry.htm

Penobscot Water Quality Program

National Fish Tissue Study

Project Objective(s): The statistical design of the 4 year study will allow us to develop national estimates of the mean concentrations of 268 chemicals in fish tissue from lakes and reservoirs of the lower 48 States. study results will define national background levels for the 265 chemicals in fish, to provide a baseline to track progress of pollution control activities, and to identify areas where contaminant levels are high enough to warrant further investigation.

Project Measures: Fish tissue contaminant composition

Web Link(s): http://www.penobscotnation.org/DNR/PINWQP.htm
http://www.penobscotnation.org/DNR/DNR1.htm
http://www.epa.gov/waterscience/fishstudy/

Sea Grant

Paralytic Shellfish Poisoning Monitoring Program

Project Objective(s): A national plan has been prepared to guide research and monitoring programs on all aspects of the harmful algal bloom (HAB) problem, from toxin detection to resource management to bloom ecology.

Project Measures: Algal Blooms ("Red Tide") Alexandrium

Web Link(s): http://www.seagrantnews.org/news/whoi.html

The Lobster Conservancy

Junior Lobster Monitoring Program

Project Objective(s): Census intertidal lobster nursery sites. Harboring “baby” lobsters under rocks, these nursery sites are accessible once a month during the lowest low tides; and are extremely valuable as indicators of lobster fishery health.

Project Measures: Crustacean distribution and abundance

Web Link(s): http://www.lobsters.org/research/research.html
http://www.lobsters.org/volunt/volunteer.html

U.S. Army Corps of Engineers

Disposal Area Monitoring System (DAMOS)

New England District

Project Objective(s): Manage and monitor offshore dredged material disposal sites from Long Island Sound to Maine.

Project Measures: Sediment contaminant composition

Web Link(s): http://www.nae.usace.army.mil/environm/damos/splash_page.htm

U.S. Fish and Wildlife Service

Gulf of Maine Coastal Program

Atlantic Salmon Watersheds, Maine: Habitat Identi

Project Objective(s): Mapping spawning and nursery habitat, developing watershed land cover information, providing assistance to watershed coalitions by identifying potential threats to salmon survival, providing technical assistance to partners.
restoring natural river channels, and developing on-the-ground parnerships to protect salmon habitat.

Project Measures: fish distribution and abundance Habitat classification/profiling

Web Link(s): http://gulfofmaine.fws.gov/salmon.html
http://gulfofmaine.fws.gov/documents/salmon.pdf

Casco Bay Habitat Identification & Protection

Project Objective(s): identified and mapped important habitat for 9 groups of species, including waterbirds, seabirds, wading birds, fish, eelgrass, cordgrass, marine worms, shellfish and endangered/threatened species.

Project Measures: Habitat usage fish distribution and abundance waterfowl reproductive success
Salt marsh plant community composition

Web Link(s): http://gulfofmaine.fws.gov/cascobay.html

Coastal Nesting Islands

Project Objective(s): Identified approximately 300 nationally significant nesting islands and is working in partnerships to promote habitat protection and restoration.

Project Measures: avian distribution and abundance waterfowl reproductive success

Web Link(s): http://gulfofmaine.fws.gov/mcni.html

Gulf of Maine Rivers Ecosystem Team

Project Objective(s): Conserve, manage and restore fish, wildlife and plant resources and their habitats within the watershed and identifies fish and wildlife resource priorities in the watershed and implements collective actions to address those priorities.

Project Measures: Habitat usage; waterfowl reproductive success; fish distribution and abundance; threatened & endangered

Web Link(s): http://gulfofmaine.fws.gov/ecoteam/ecoteam.html

Gulf of Maine Watershed Habitat Analysis

Project Objective(s): Identified, mapped, and ranked important fish and wildlife habitat for priority species throughout the Gulf of Maine watershed.

Project Measures: Habitat usage; fish distribution and abundance; waterfowl reproductive success

Web Link(s): http://gulfofmaine.fws.gov/gomanalysis/gomanalysis.html
http://gulfofmaine.fws.gov/gomanalysis/documents/gomanalysis.pdf

Habitat Restoration in Maine

Project Objective(s): Working in voluntary partnerships with all interested stakeholders, to restore rivers, nesting islands, coastal marshes and grasslands for migratory fish, birds, endangered species.

Project Measures: Wetland community composition and distribution; Grassland community compostion and distribution; Habitat usage; Salt marsh plant community composition

Web Link(s): http://gulfofmaine.fws.gov/restore1.html

U.S. Forest Service

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.
Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.
Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures: Soil characteristics; Tree condition; Lichens; Air quality

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/

University of Maine Cooperative Extension

Maine Shore Stewards

BEACH PROFILING PROJECT

Project Objective(s): Trained volunteers are currently making topographic profiles of 10 important barrier systems in southern Maine. In addition, moored wave/current meters offshore are collecting data.
it is possible to determine how individual beaches respond to a variety of meteorological changes depending on their level of development and the volume of sand contained in, or available to each beach.

Project Measures: changes in topography of marine barrier systems

Web Link(s): http://www.geology.um.maine.edu/beach/
http://www.ume.maine.edu/ssteward/programs.htm

Clean Water/Partners in Monitoring

Project Objective(s): study the health of estuarine water by monitoring for dissolved oxygen, temperature, pH, salinity, and fecal coliform bacteria.
As a result of successful monitoring efforts in Maine, thousands of acres of clam flats have been opened.

Project Measures: Fecal coliform; Temperature; Dissolved Oxygen; pH; Salinity

Web Link(s): http://www.ume.maine.edu/ssteward/cwpim.htm

University of Southern Maine

Casco Bay Estuary Project

Casco Bay Air Monitoring Report

Project Objective(s): The current role of atmopsheric deposition, as it relates to nitrogen, mercury and fine partulcate matter pollution in Casco Bay.
If atmospheric deposition (both wet and dry) provides significant sources of nitrogen and mercury pollution to Casco Bay.
The relative potential contribution of atmospheric deposition to the total pollution measured in the sediments.

Project Measures:

toxins stored in lobster adipose tissue	Crustacean contaminat loads	Sediment contaminant composition
PAH	Hydrocarbon pollution	nitrogen
mercury monitoring		

Web Link(s): http://www.cascobay.usm.maine.edu/
http://www.cascobay.usm.maine.edu/toxics.html - Air%20Deposition

University of Southern Maine

Casco Bay Estuary Project

Habitat Protection and Restoration

Project Objective(s): The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed.
Results are being used to catalyze voluntary habitat protection efforts in the region.

Project Measures:

Mapping	aquatic plant community composition	Wetland community composition and distribution
rivers		

Web Link(s): http://www.cascobay.usm.maine.edu/
http://gulfofmaine.fws.gov/cascobay.html
http://www.cascobay.usm.maine.edu/Habfact.pdf

Wildlife Areas/Protected Lands Mapping

Project Objective(s): Habitat identification was based on species occurrences and also was projected from environmental parameters favorable to those species, such as suitable vegetation, water depth, or presence of food resources.
This information is being used in an analysis of threats to important habitats from development activities, performed in cooperation with the Casco Bay Estuary Project.

Project Measures: Habitat classification/profiling Mapping

Web Link(s): http://www.cascobay.usm.maine.edu/
http://gulfofmaine.org/library/casco/casco.htm

Vermont Institute of Natural Science

Mountain Bird Watch

Mountain Bird Watch

Project Objective(s): Mountain Bird watch is a long-term monitoring program for songbirds that breed in high-elevation forests of the Northeast. Skilled volunteers conduct annual surveys along 1-km routes that are located on mountains in New York, Vermont, New Hampshire, and Maine. Primary emphasis is placed on Bicknell's Thrush, the region's only endemic bird species, and a montane fir specialist that is vulnerable to ongoing and projected habitat loss. Other focal species include Blackpoll Warbler, Swainson's Thrush, White-throated Sparrow, and Winter Wren. In 2002, Mountain Birdwatchers gathered observations from 142 locations, with point count surveys completed on 118 routes.

Project Measures: avian distribution and abundance

Web Link(s): http://www.vinsweb.org/cbd/mtn_birdwatch.html

Wells National Estuarine Research Reserve

NERR

Marsh-dominated estuarine ecosystems Gulf ME

Project Objective(s): the influence of land use and hydrologic change on estuarine health.
the relative contributions of sea-level rise and human activity to coastal habitat degradation (marshes, beaches, estuaries).
the role of marsh-dominated estuaries in supporting Gulf of Maine migratory and marine fisheries.

Project Measures:

Hydrology	Erosion	Salt marsh plant community composition
Salt marsh fish community composition	Salt marsh invertebrate community composition	Lyme disease ecology and epidemiology

Web Link(s): http://inlet.geol.sc.edu/WEL/index.html

Appalachian National Scenic Trail

Appalachian Mountain Club

Mountain Watch

Mountain Watch

Project Objective(s): During the first phase of Mountain Watch, data collection will focus on several air quality measurements, including visibility degradation and hiker exposure to ground-level ozone pollution that gets transported to the mountain ecosystems of the Northeast. Because alpine ecosystems are some of the most sensitive to global climate change, they cannot "migrate" to cooler climates. Participants will also contribute to databases on when alpine plants flower, trees break bud in the spring and the onset of fall foliage. Weather measurements will also be taken to correlate with longer-term climatic records to correlate with the timing of the annual cycles of plants – plant phenology.

Project Measures: Air quality; Weather; vegetative & flower bud development

Web Link(s):

Appalachian Trail Conference

Corridor Monitoring

Project Objective(s): Corridor monitoring involves the regular, systematic gathering of information about the A.T. corridor for the specific purpose of protecting A.T. lands from encroachment.

Project Measures: Boundary Encroachment

Web Link(s): http://www.appalachiantrail.org/protect/steward/corridor.html

Environmental Monitoring

Project Objective(s): The Environmental Monitoring program involves gather information regarding air and water quality, wildlife habitat, and forest health and the changes that occur over time.

Project Measures: Air quality

Web Link(s): http://www.appalachiantrail.org/protect/steward/enviro.html

Baxter State Park

Monitoring Bicknell's Thrush

Project Objective(s): Monitor birds at high elevation sites and their distribution in the park.

Project Measures: avian distribution and abundance

Web Link(s): http://www.baxterstateparkauthority.com/sciforest/index.html
http://www.state.me.us/ifw/wildlife/pif/news/min97101.htm - Sliverskip

Connecticut Audubon

Important Bird Areas (IBA)

Project Objective(s): Sites that are important to endangered or threatened species, species of high conservation priority that contain rare habitat.

Project Measures: avian distribution and abundance

Web Link(s): http://greenwich.center.audubon.org/
http://greenwich.center.audubon.org/research.html

Connecticut Department of Environmental Protection

Environmental and Geographic Information Center

Connecticut Butterfly Atlas

Project Objective(s): Collect data, in the form of vouchers and field forms, over one or more of five field seasons from 1995 through 1999. Vouchers are either specimens or photographs, and provide the information needed to produce a map of each species' distribution.

Project Measures: lepidopteron distribution and abundance; Invertebrate distribution and status

Web Link(s): http://george.peabody.yale.edu/cbap/
http://dep.state.ct.us/cgnhs/nddb/Nddb2.htm

Connecticut Department of Environmental Protection

Environmental and Geographic Information Center

Rare Animal Species

Project Objective(s): To conserve, protect, restore and enhance any endangered or threatened species and their essential

Project Measures: rare vertebrate distribution and abundance; rare invertebrate distribution and abundance

Web Link(s): http://dep.state.ct.us/cgnhs/nddb/nddb2.htm
http://dep.state.ct.us/cgnhs/index.htm

Rare Plant Species

Project Objective(s): Conserve, protect, restore and enhance any endangered or threatened species and their essential habitat.

Project Measures: rare plant distribution and abundance

Web Link(s): http://dep.state.ct.us/cgnhs/nddb/nddb2.htm
http://dep.state.ct.us/cgnhs/index.htm

Whip-poor-Will and Nighthawk Survey

Project Objective(s): Survey these species to determine whether or not the birds are undergoing a decline in their populations. Both species have been listed as a state species of special concern since 1991.

Project Measures: avian distribution and abundance; breeding

Web Link(s): http://dep.state.ct.us/cgnhs/nddb/volun.htm
http://dep.state.ct.us/cgnhs/nddb/nddb2.htm
http://dep.state.ct.us/cgnhs/index.htm

Institute for Bird Populations

Monitoring Avian Productivity and Survivorship

Avian Inventory Program

Project Objective(s): indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured.
estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from mark-recapture data on adult birds.

Project Measures: avian distribution and abundance

Web Link(s): http://www.birdpop.org
http://www.birdpop.org/avianinv.htm
http://www.birdpop.org/maps.htm

Long Term Ecological Research Network

Hubbard Brook

Project Objective(s): Core Research Questions : (i) Dynamic patterns and control of primary production, over time, and in relation to natural and induced stresses or disturbances; (ii) Dynamics of selected populations of seed plants, saprophytic organisms, invertebrates, fish, birds and mammals in relation to time as well as natural and induced stresses or disturbances; (iii) Patterns and control of organic accumulation (biomass) in surface layers and substrate (or sediment) in relation to time or natural and Induced stresses or disturbances; (iv) Patterns of inorganic contributions (atmospheric or hydrologic) and movement through soils, groundwater, streams and lakes in relation to time and natural or induced stresses or disturbances; (v) Patterns and frequency of apparent site interventions (disturbances) over space and time (drought, fire, windthrow, insects or other perturbations) that may be a product of, or induce, long-term trends.

Project Measures: Climate; Weather; Hydrology; Forest community composition and distribution; Habitat classification/profiling; Natural communities; Water chemistry

Web Link(s): www.hubbardbrook.org

Maine Audubon

Important Bird Areas (IBA)

Project Objective(s): identify and prioritize the most important areas for bird conservation in the state of Maine.
assist as needed in planning for the conservation and management of these bird-rich areas.

Project Measures: avian distribution and abundance; breeding; threatened & endangered; Habitat usage

Web Link(s): http://www.maineaudubon.org/conservation/iba/index.html

Loons and Lakes

Project Objective(s): Determine the population status of loons in Maine.
Efforts to allow municipalities the flexibility to develop watercraft restrictions on lakes within their jurisdictions, and to spread the work on the potentially lethal dangers posed to loons of fishing with lead sinkers and jigs.

Project Measures: waterfowl reproductive success

Web Link(s): http://www.maineaudubon.org
http://www.maineaudubon.org/conserve/overview.shtml

Maine Amphibian Monitoring Project

Project Objective(s): determining preliminary population trends for many of Maine's frogs and toads.

Project Measures: Amphibian distribution and abundance | breeding | Amphibian egg mass count
Frog populations | Frog calls | Habitat usage

Web Link(s): http://www.maineaudubon.org/

Maine Owl Monitoring Program

Owl Survey and Monitoring

Project Objective(s): To learn more about the fluctuations in owl populations in our state and ultimately to ensure that each species remains an integral part of our ecosystem.
The Maine Cooperative Owl Surveys in 2002 and 2003 allowed us to analyze a large amount of data that helped us identify the best times to survey for owls.

Project Measures: avian distribution and abundance | Habitat usage

Web Link(s): http://www.maineaudubon.org/conserve/citsci/owl.shtml
http://www.maineaudubon.org

Vernal Pools

Project Objective(s): Vernal pools are small, usually ephemeral wetlands that are essential breeding sites for 4 of Maine's species: wood frogs, spotted and blue-spotted salamanders, and fairy shrimp.
inventory and study vernal pools in southern, central, and northern Maine.

Project Measures: Wetland community composition and distribution | breeding

Web Link(s): http://www.maineaudubon.org/
http://www.maineaudubon.org/conserve/overview.shtml

Maine Department of Conservation

Maine Natural Areas Program

Aquatic Vegetation Surveys of Selected Maine Lakes

Project Objective(s): If particularly outstanding examples of vegetation communities are identified, that information could be used to identify lakes and watersheds most in need of protection through mechanisms such as the Land for Maine's Future Board.
This project will help establish important baseline data on the structure and composition of near shore aquatic plant communities in selected Maine lakes.
the work will serve as a pilot project which will guide conservation groups, interested citizens, and others in developing strategies to monitor the vegetation of the state's lakes.

Project Measures: aquatic plant community composition | water quality | shoreline disturbance

Web Link(s): http://www.state.me.us/doc/nrimc/mnap/programs/aquatics.html
http://www.maine.gov/dep/blwq/docmonitoring/lake/index.htm
http://mainevolunteerlakemonitors.org/index2.htm

Management of Invasive Non-native Plants in Maine

Project Objective(s): assess and track the most invasive plant species in Maine.
educate landowners, land managers, nursery groups, and the general public about native alternatives to non-native plants for use in gardening, landscaping, and restoration work.
generating educational materials on the ecology and management of at least five of the most invasive non-native plants in Maine.

Project Measures: disease/pest conditions

Web Link(s): http://www.state.me.us/doc/nrimc/mnap/programs/invasives.html
http://www.state.me.us/doc/nrimc/mnap/home.htm

Natural Communities

Project Objective(s): Distribution and Status of High Priority Species.
Maine Natural Areas Program has been trying to improve the quality and quantity of data on natural community occurrences in Maine.

Project Measures: rare plant distribution and abundance | Rare community distribution and composition

Web Link(s): http://www.state.me.us/doc/nrimc/mnap/fieldforms/formsexp.html
http://www.state.me.us/doc/nrimc/mnap/home.htm

Small-whorled Pogonia

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: rare plant distribution and abundance

Web Link(s): http://www.state.me.us/doc/nrimc/mnap/programs/programs.html

Maine Department of Environmental Protection

Maine River and Streams

Stream Team Program

Project Objective(s): A stream team is a group of who people who have banded together to promote stewardship of their local stream.

Project Measures: water quality

Web Link(s): http://www.state.me.us/dep/blwq/docstream/team/streamteam.htm

Maine Department of Environmental Protection

Surface Water Ambient Toxic Monitoring Program

Project Objective(s): comprehensively monitor the lakes, rivers & streams, marine & estuarine waters of the State on an ongoing basis.

Incorporate testing for suspected toxic contamination in biological tissue & sediment, may include testing of the water column & must include biomonitoring & the monitoring of the health of individual organisms that may serve as indicators of toxic contamination.

collect data sufficient to support assessment of the risks to human & ecological health posed by the direct and indirect discharge of toxic contaminants.

Project Measures:

Tissue contaminant load	Sediment contaminant composition	Water column contaminant composition
mercury monitoring	Molluscan contamination	

Web Link(s): http://www.state.me.us/dep/blwq/docmonitoring/swat/2001swatexsum.pdf
http://www.maine.gov/dep/blwq/docmonitoring/swat/index.htm

Maine Department of Inland Fisheries and Wildlife

Birds

Marshbird Surveys

Project Objective(s): Several species of wetland-associated birds are found in Maine by broadcasting tape recordings of their vocalizations, the presence of many of these species in a marsh can be confirmed.

In 2002, we completed the second and final year of our fieldwork to evaluate the distribution and relative abundance of 10 wetland bird species in the Boundary Plateau and St. John Upland regions of northwestern Maine.

least bittern, yellow rail, and common moorhen are currently listed as special concern in Maine. Additional information about these species would help clarify their status, and may lead to habitat management strategies to aid in their conservation.

Project Measures: avian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/birdgroup.htm

Ruffed Grouse

Project Objective(s): Despite its importance as a quality game bird in Maine, little management and research effort is devoted to this species because of limited dollars and personnel time.

Project Measures: game animal distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/upbird.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Rusty Blackbird

Project Objective(s): We surveyed 188 sites among 84 townships during the two field seasons. Despite this amount of effort, we detected this species at only 18 of the 188 sites during summers of 2001 and 2002.

Evidence of successful breeding was limited as most observations were of individuals, but we observed multiple birds at 6 of 18 occupied sites as well as a fledged brood at one site.

Results of our surveys will form a base from which the first steps toward a monitoring program could be taken.

Project Measures: avian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/birdgroup.htm

Maine Department of Inland Fisheries and Wildlife

Birds

Sharp-tailed Sparrows

Project Objective(s): The sharp-tailed sparrows, Nelson's and saltmarsh sharp-tailed sparrows, are restricted to coastal marshes for every aspect of their life cycle.
In 2001, we completed field work on the ecology of sharp-tailed sparrows at Scarborough Marsh Wildlife Management Area.
Specific analyses in the past year have included developing a standardized method for monitoring these species.
Field work on these species has been limited with more work anticipated in 2003 to further evaluate the degree of exposure of these species to mercury.

Project Measures: avian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/birdgroup.htm

Turkey

Project Objective(s): the Department's goal is to have a viable wild turkey population wherever suitable wild turkey habitat exists.

Project Measures: game animal distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/upbird.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Waterfowl

Project Objective(s): Habitat protection and enhancement efforts are another form of management that the Department is using to increase waterfowl breeding populations.
Waterfowl are now being managed to increase certain breeding populations.

Project Measures: waterfowl reproductive success

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/birds.htm
http://www.state.me.us/ifw/wildlife/03report/waterfowl.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Ecoregional Survey

Project Objective(s): identifies known locations of all natural features and wildlife habitats.

Project Measures: Habitat classification/profiling; Mapping; rare vertebrate distribution and abundance; rare invert distribution; rare plant distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm

Endangered and Threatened Species

Butterflies

Project Objective(s): Distribution and Status of High Priority Species

Project Measures: lepidopteran distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Maine Department of Inland Fisheries and Wildlife

Endangered and Threatened Species

Clayton's Copper

Project Objective(s): Five survey plots were surveyed throughout the peak of the copper's flight season in order to begin estimating population size and monitoring trends at Dwinal Pond.
A habitat characterization system was developed and used to document the butterfly's habitat preferences and distribution within the flowage.
What is learned about monitoring Clayton's copper populations and managing habitat at Dwinal Pond will then be applied to benefit other sites and potentially improve the butterfly's status.

Project Measures: lepidopteran distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Dragonflies

Project Objective(s): Distribution and Status of High Priority Species

Project Measures: odonate distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://mdds.umf.maine.edu/~odonata/.
http://www.state.me.us/ifw/wildlife/wildlife.htm

Freshwater Mussels

Project Objective(s): document the occurrences of the State's freshwater mussels; learn about their life histories, habitat requirements, and conservation needs; and conserve habitat for Maine's rarer species.
In 2002, MDIFW continued collaboration on a research project to advance the understanding and conservation of Maine's two rarest freshwater mussel species _ the yellow lampmussel and tidewater mucket.
From 1992-97, MDIFW conducted a statewide survey to determine the status, abundance, and distribution of the State's freshwater mussels.

Project Measures: molluscan distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Maine Amphibian and Reptile Atlasing Project

Project Objective(s): Distribution and Status of High Priority Species.
From 1986-1990 over 250 volunteers from around the state contributed approximately 1,200 records of observations of amphibians and reptiles.
MDIFW continues to maintain a statewide database for amphibians and reptiles.

Project Measures: herptile distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Partners in Amphibian and Reptile Conservation

Project Objective(s): MDIFW participates in PARC meetings designed to improve communication on efforts to conserve threatened herptile species in the Northeast, and to identify new projects of regional priority for implementation.

PARC's mission is to forge partnerships among diverse public and private organizations in an effort to stem recent declines of amphibian and reptile (herptile) populations worldwide.

Project Measures: Amphibian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.parcplace.org/

Maine Department of Inland Fisheries and Wildlife

Endangered and Threatened Species

Vernal Pools

Project Objective(s): Water Body Location and Classification
learn about why some vernal pools receive greater wildlife use than others.
wildlife use and characteristics of vernal pools in three southern Maine townships: Biddeford; Kennebunkport; and, North Berwick.

Project Measures: Amphibians | aquatic plant community composition | Frog populations | waterfowl reproductive success

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Endangered and Threatened Species Study

Amphibian Monitoring

Project Objective(s): determining preliminary population trends for many of Maine's frogs and toads.

Project Measures: Frog populations | Frog calls

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Bald Eagle

Project Objective(s): Habitat "safety net" to maintain species recovery including at least 50 nesting areas under conservation ownership or appropriate easements.
At least 100 additional areas under conservation ownership, appropriate easements, or cooperative agreements with private landowners.

Project Measures: avian distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Blandings and Spotted Turtles

Project Objective(s): More than 80 turtles were marked or radio-tagged to gather information on nesting and hibernation sites, movements, and the types of wetlands used.
Most significantly, her work demonstrated the importance of small pocket swamps and vernal pools as productive foraging and breeding habitats, with individual turtles often requiring multiple wetlands within a single activity area.
MDIFW is committed to working with landowners and towns to help conserve remaining large blocks of habitat needed to sustain viable populations of these rare turtles.

Project Measures: chelonian population viability

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/et.htm

Golden Eagle

Project Objective(s): MDIFW will work cooperatively with landowners to maintain suitable habitat at the few eyries once used by goldens.

Project Measures: avian distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Grasshopper Sparrows

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: avian distribution and
abundance

Web Link(s):

Maine Department of Inland Fisheries and Wildlife

Endangered and Threatened Species Study

Peregrine Falcon

Project Objective(s): A total of 144 young peregrines produced in captive-breeding programs were successfully released at 8 different locations in Maine during 1984-1997.
1989 - 2001, but numbers of nesting peregrines did not change appreciably: 5 - 8 eyries were inhabited each year.
in 2002. The statewide breeding population doubled in a single year. Peregrines inhabited 15 eyries, and 26 young peregrines fledged from ten of those eyries.
Diligence by land managers has been crucial to maintaining eyries favored by peregrines.

Project Measures: avian distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Wood Turtles

Project Objective(s): About 40 radio-tagged turtles were tracked and the nests located, and documented their movements and habitat use.
summer temperature influences hatching success of wood turtles - a critical factor influencing population viability at the northern edge of the specie's range.
Now studying the conservation genetics of wood turtles.
at the state level, several of Maine's major watersheds host unique wood turtle populations that have been isolated from one another over hundreds or thousands of years.

Project Measures: Reptile distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/etss.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Mammals

Black Bears

Project Objective(s): Distribution and Status of High Priority Species.
The Department's goal, chosen with public input, is to maintain the bear population at its current level.

Project Measures: game animal distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/mamm.htm
http://www.state.me.us/ifw/wildlife/03report/bbear.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Coyote/Wolf

Project Objective(s): a genetic study to clarify whether Maine's coyotes are true coyotes or coyote/wolf hybrids, and to determine whether our coyotes can be distinguished from eastern Canadian wolves.
Information from this research will help our Department better understand how to approach enforcement issues concerning the incidental killing of wolves by trappers or snares, and may give insight into the behavior of our coyotes.
this research will be an essential step in determining whether it is feasible or desirable to recover wolves in Maine and the rest of the Northeast.

Project Measures: game animal distribution and genetic markers
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/furbear.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Marten

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: game animal distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/furbear.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Maine Department of Inland Fisheries and Wildlife

Mammals

Moose

Project Objective(s): Distribution and Status of the species.

Project Measures: game animal distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/mamm.htm
http://www.state.me.us/ifw/wildlife/03report/moose.htm

New England Cottontail

Project Objective(s): A cooperative Master's project between MDIFW and Dr. John Litvaitis, University of New Hampshire, was started in the Fall of 1999.
(1) determine the current distribution of New England cottontails in Maine using snowtrack, fecal pellet, and live trapping surveys.
(2) characterize the attributes of sites occupied by New England cottontails in Maine.
(3) develop a monitoring protocol capable of detecting status changes of New England cottontails in Maine.
Having a clear set of management goals for New England cottontail is critical at this time, since the species is on the verge of being listed as either a Threatened or Endangered species by the U.S. Fish and Wildlife Service.

Project Measures: Mammalian distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/wildlife.htm
http://www.state.me.us/ifw/wildlife/03report/mamm.htm
http://www.state.me.us/ifw/wildlife/03report/furbear.htm

Whitetail Deer

Project Objective(s): we have set population objectives of 15 or 20 deer/mi2 for each central and southern Maine WMD.
In northern and eastern Maine, the road to a more abundant deer population must involve increasing and restoring some of the deer wintering habitat that was lost during the past 3 decades.

Project Measures: game animal distribution and
abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/deer.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Partners in Flight

Grassland Birds & Monitoring/Atlasing

Project Objective(s): Distribution and Status of High Priority Species.
Grassland Bird Focus Group: 1: inventory all the significant populations of grassland birds in Maine with Upland Sandpipers and Vesper Sparrows as primary targets.
Grassland Bird Focus Group: 2:to ensure that Conservation Reserve Program lands are maintained in early successional cover and thus continue to provide habitat for grassland birds.
Monitoring/Atlasing: to improve monitoring for species that are inadequately surveyed by the North American Breeding Bird Survey.

Project Measures: avian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/pif/index.htm
http://www.state.me.us/ifw/wildlife/pif/focus/index.htm

Penobscot Meadow Vole

Project Objective(s): Distribution and Status of High Priority Species

Project Measures: Mammalian distribution and abundance

Web Link(s):

Tomah Mayfly

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: invertebrate range and distribution

Web Link(s):

Maine Department of Inland Fisheries and Wildlife

Wildlife Division

Canada Lynx

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: Mammalian distribution and abundance

Web Link(s): http://www.state.me.us/ifw/wildlife/03report/furbear.htm - Sliverskip
http://www.state.me.us/ifw/wildlife/03report/wildlifeplanning.htm
http://www.state.me.us/ifw/wildlife/wildlife.htm

Wood Cock

Project Objective(s): Distribution and Status of High Priority Species.

Project Measures: game animal distribution and abundance

Web Link(s):

Maine Forest Service

Forest Health Monitoring

Pine Shoot Beetle/Hemlock Woolly Adelgid

Project Objective(s): protect the forest, shade and ornamental tree resources of the state from significant insect and disease damage.
to provide pest management and damage prevention for homeowners, municipalities, and forest land owners and managers.

Project Measures: disease/pest conditions

Web Link(s): http://www.state.me.us/doc/mfs/psb.htm
http://www.state.me.us/doc/mfs/idmhome.htm
http://www.state.me.us/doc/mfs/idmhwa.htm

Maine Tribal Community / U.S. Environmental Protection Agency

Penobscot Air Program

Project Objective(s): control pollutant emissions from automobiles, factories, and other sources.

Project Measures:

Carbon monoxide	nitrogen dioxide	Ozone
Lead	particulate matter	sulfur dioxide

Web Link(s): http://www.penobscotnation.org/DNR/Air%20news/overview.htm
http://www.penobscotnation.org/DNR/air_index.htm
http://www.penobscotnation.org/DNR/DNR1.htm

Maryland Department of Natural Resources

Endangered and Threatened Species Study

Bald Eagles

Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: avian distribution and abundance
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Natural Heritage & Endangered Species Program

Piping Plover Nest

Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: avian distribution and abundance
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Maryland Department of Natural Resources

Natural Heritage Program

Ancient xeric sand dunes

Project Objective(s): Geology.
Project Measures: Rare community distribution and composition
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Bog Turtle

Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: chelonian population viability
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Butterflies

Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: lepidopteran reproductive success
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Colonial Waterbirds

Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: avian distribution and abundance
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Delmarva Fox Squirrel

Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: Mammalian distribution and abundance
Web Link(s): http://www.dnr.state.md.us/naturalresource/fall2002/squirrel.html
http://www.dnr.state.md.us/wildlife/rimon.html

Dragonflies

Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: rare invert distribution
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Freshwater Fish: Rare Animal Species

Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: fish distribution and abundance
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Freshwater Mussels

Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: molluscan distribution and abundance
Web Link(s): http://www.dnr.state.md.us/wildlife/dwm.html
http://www.dnr.state.md.us/wildlife/rimon.html

Ground Water Fauna

Project Objective(s): Water Body Location and Classification.
Project Measures: Algae
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Limestone glades and woodlands

Project Objective(s): Soils.
Project Measures: Rare community distribution and composition
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Maryland Department of Natural Resources

Natural Heritage Program

Mixed-mesophytic forests
Project Objective(s): Vegetation Mapping.
Project Measures: Rare community distribution and composition
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Nanticoke River watershed communities
Project Objective(s): Water Body Location and Classification.
Project Measures: Rare community distribution and composition
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Potomac drainage floodplain forests
Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: Habitat classification/profiling
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Rare Plant Species
Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: rare plant distribution and abundance
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Reptile and Amphibian Surveys
Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: herptile distribution and abundance
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Sandstone glades
Project Objective(s): Soils.
Project Measures: Rare community distribution and composition
Web Link(s): http://www.dnr.state.md.us/wildlife/mcc.html
http://www.dnr.state.md.us/wildlife/rimon.html

Shale barren habitats
Project Objective(s): Soils.
Project Measures: Rare community distribution and composition
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Small Mammal Survey and Monitoring
Project Objective(s): Distribution and Status of High Priority Species.
Project Measures: Mammalian distribution and abundance
Web Link(s): http://www.dnr.state.md.us/wildlife/rimon.html

Massachusetts Audubon

Important Bird Areas (IBA)

Project Objective(s): To identify, nominate, and designate key sites that contribute to the preservation of significant bird populations or communities.
To provide information that will help land managers evaluate areas for habitat management and/or land acquisition.
To activate public and private participation in bird conservation efforts.
To provide public education and community outreach opportunities.
Project Measures: avian distribution and abundance Habitat usage threatened & endangered breeding
Web Link(s): http://www.massaudubon.org/index.php
http://www.massaudubon.org/Birds_&_Beyond/IBAs/index.php

Massachusetts Department of Environmental Protection

Air Program Planning Unit

Addressing Air Toxics in Massachusetts

Project Objective(s): In order to protect the health of Massachusetts' residents and preserve our environment; aims to reduce the emissions and ambient air impact of a number of toxic air pollutants likely to be used by business, industry, and individuals in the state.

TURA (Massachusetts Toxic Use Reduction Act)focusing on pollution prevention as a way to comply with regulatory standards while increasing the economic competitiveness of Massachusetts industry.

Ozone Reduction is the reduction of volatile organic compound (VOCs) emissions from a variety of sources, including industry and mobile sources.

Project Measures:

polycyclic aromatic hydrocarbons	Chromium	benzene
toluene	xylenes	perchloroethylene
methylene chloride	Cadmium	mercury monitoring

Web Link(s): http://www.state.ma.us/dep/bwp/daqc/files/airtox.htm

Wetlands Conservancy Program

Project Objective(s): The DEP is mapping the state's wetlands using aerial photography and photointerpretation to delineate wetland boundaries which is used to document the extent and type of the state's wetlands.

Project Measures: Wetland community composition and distribution

Web Link(s): http://www.state.ma.us/dep/brp/
http://www.state.ma.us/dep/brp/ww/rpwwhome.htm
http://www.state.ma.us/dep/brp/ww/files/wcpbroch.pdf

Massachusetts Division of Fisheries and Wildlife

Natural Heritage & Endangered Species Program

Natural Communities

Project Objective(s): The Massachusetts Natural Heritage Program actively inventories and tracks the distribution and status of uncommon and exemplary natural communities across the state.

Conservation priority should be given to: natural communities with limited distribution across ecoregions within the state, those with restricted global distribution, and those common types for which the best documented examples occur in Massachusetts.

Project Measures: Rare community distribution and composition

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhcommun.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Rare Animal Species

Project Objective(s): The Program's highest priority is protecting the approximately 190 species of vertebrate and invertebrate animals that are officially listed as endangered, threatened or of special concern in Massachusetts.

Project Measures:

rare vertebrate distribution and abundance	rare invertebrate distribution and abundance

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhspecies.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Massachusetts Division of Fisheries and Wildlife

Natural Heritage & Endangered Species Program

Rare Plant Species

Project Objective(s): The Program's highest priority is protecting the approximately 258 species of native plants that are officially listed as Endangered, Threatened or of Special Concern in Massachusetts.

Project Measures:

rare plant distribution and abundance	Habitat usage

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhspecies.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Vernal Pools

Project Objective(s): The NHESP serves the important role of officially "certifying" vernal pools that are documented by citizens. Finding vernal pools is the first step for protection.

Project Measures:

Rare community distribution and composition	Habitat usage	Wetland community composition and distribution

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhvernal.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

National Atmospheric Deposition Program

Atmospheric Integrated Research Monitoring Network (AIRMoN)

AIRMonN-Wet & AIRMoN-Dry

Project Objective(s): Determining the effectiveness of emission controls mandated by the Clean Air Act.
Evaluating the potential impacts of new sources of emissions on protected areas such as Class I Wilderness Areas.
Identifying source/receptor relationships in atmospheric models.
AIRMoN was designed to provide data with a greater temporal resolution.

Project Measures: Precipitation composition; nitrogen; Ozone; sulfur dioxide; gaseous nitric acid

Web Link(s): http://nadp.sws.uiuc.edu/airmon/

Mercury Depostion Network (MDN)

Project Objective(s): The objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition.
The data will be used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Project Measures: mercury monitoring; Precipitation composition; methylmercury

Web Link(s): http://nadp.sws.uiuc.edu/mdn/

New Hampshire Audubon

Backyard Bird Survey

Backyard Winter Bird Survey

Project Objective(s): Backyard Winter Bird Survey participants report any bird species visiting their yard and/or feeders in New Hampshire on the second weekend of February. Originally begun as a "Cardinal-Tufted Titmouse Census," it was expanded in 1987 to gather information on the distribution and abundance of many winter species in New Hampshire.

Project Measures: avian distribution and abundance

Web Link(s): http://www.nhaudubon.org

New Hampshire Division of Forests and Lands

Natural Heritage Bureau

Natural Communities

Project Objective(s): The NH Natural Heritage Bureau tracks "exemplary" natural community occurrences.
To qualify as exemplary, a natural community in a given place must be of a rare type, such as a pitch pine/scrub oak barrens, or must be an exceptional occurrence of a common type, such as an old growth spruce/fir forest.

Project Measures: Commuinity composition; Wetland community composition and distribution; Forest community composition and distribution; Grassland community composition and distribution

Web Link(s): http://www.nhdfl.org/formgt/nhiweb/

Rare Animal Species

Project Objective(s): The NH Natural Heritage Bureau tracks rare animal species.

Project Measures: rare vertebrate distribution and abundance; rare invert distribution

Web Link(s): http://www.nhdfl.org/formgt/nhiweb/

Rare Plant Species

Project Objective(s): The NH Natural Heritage Bureau tracks the state's rarest and most imperiled plant species.

Project Measures: rare plant distribution and abundance

Web Link(s): http://www.nhdfl.org/formgt/nhiweb/

New Hampshire Fish and Game Department

Moose Research

Moose Research in North Country

Project Objective(s): To track the movements and habitat use as well as population dynamics, mortality and habitat needs.
Information collected on the study moose will enable Fish and Game biologists to more effectively manage the state's overall moose population.

Project Measures: Habitat usage; Mammalian distribution and abundance

Web Link(s): http://www.wildlife.state.nh.us/Newsroom/News_2003/News_2003_Q3/Moose_Research_090403.htm
http://www.wildlife.state.nh.us/

New Jersey Audubon

Important Bird and Birding Area Program (IBBA)

Project Objective(s): Identify both areas that are essential habitats for sustaining native avian populations (Important Bird Areas), and areas that are exceptional for birdwatching (Important Birding Areas).

Project Measures: breeding; Habitat usage

Web Link(s): http://www.njaudubon.org/Conservation/IBBA/OurIBBA.html
http://www.njaudubon.org/

New Jersey Department of Environmental Protection

Natural Heritage Program

Rare Plants and Animals

Project Objective(s): Identifies the state's most significant natural areas through a comprehensive inventory of rare plant and animal species and representative natural communities.

Project Measures: rare plant distribution and abundance; rare invertebrate distribution and abundance; rare vertebrate distribution and abundance

Web Link(s): http://www.natureserve.org/nhp/us/nj/

New York State Department of Environmental Conservation

Natural Heritage Program

Ecological Communities

Project Objective(s): An ecological community is a variable assemblage of interacting plant and animal populations that share a common environment; in NY a classification has been developed to help assess and protect the biological diversity of the state.

Project Measures: Community composition

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/heritage/
http://www.dec.state.ny.us/website/dfwmr/heritage/ecology.htm

New York Natural Heritage Program

Herp Atlas

Project Objective(s): Herp Atlas was a ten year survey that was designed to document the geographic distribution of New York State's herpetofauna.

Project Measures: herptile distribution and abundance

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/wildlife/herp/

Rare Animal Species

Project Objective(s): Actively surveys rare animal species of all vertebrate groups and selected rare species from the invertebrate groups.

Project Measures: rare vertebrate distribution and abundance; rare invertebrate distribution and abundance

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/heritage/animallist.pdf
http://www.dec.state.ny.us/website/dfwmr/heritage/
http://www.dec.state.ny.us/website/dfwmr/heritage/animals.htm

Rare Plant Species

Project Objective(s): The New York Natural Heritage Program keeps track of the status of the state's rare flowering plants, conifers, ferns and fern allies, and mosses.

Project Measures: rare plant distribution and abundance

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/heritage/plants.htm
http://www.dec.state.ny.us/website/dfwmr/heritage/index.htm

New York State Museum

Inventory of Sterling Forest (1998 to 2000)

Project Objective(s): Scientists from the New York State Museum have conducted faunal and floral inventories of the recently acquired Sterling Forest State Park. Lists of species were generated for amphibians, reptiles, fish, crayfish, mammals, insects (butterflies, moths, dragonflies, and damselflies), and plants.

Project Measures: Species diversity

Web Link(s): http://www.nysm.nysed.gov/bri/research/steward.html - Sterling

Wildlife Science and Conservation Initiative

Albany Pine Bush Carnivore Research Project

Project Objective(s): Establish the distribution and relative abundance of carnivores in the PB reserve.
Evaluate the health of carnivore populations in terms of population size, disease, genetic diversity, and animal dispersal between reserve fragments.
Estimate the diet of different carnivore species through fecal analysis.
Change in relative abundance and diversity of prey communities (e.g., rodents and smaller carnivores).
Related change in seed predation or dispersal by rodents.
Related change in browsing and grazing intensity by deer and rabbits.
Change in nest predation rates for birds.

Project Measures: Mammalian distribution and abundance

Web Link(s): http://www.nysm.nysed.gov/WildSci/pinebush.html

Penobscot Nation Dept of Natural Resources

Forest Management

Forest Management Plan

Project Objective(s): Preserve and protect water quality on the trust lands; Preserve and enhance the long-term productivity of the forest resource.
Provide for the protection of the forest resource from insects, disease, fire, trespass and invasive species.
Identify and protect significant natural resources located on the trust lands; including but not limited to fisheries and important wildlife habitat such as deer wintering areas, habitat for threatened and endangered species and vernal pools.
Identify and protect significant cultural and archaeological resources on the trust lands; Where appropriate, emphasis the management of the forest to maintain and improve the populations of moose and white-tailed deer.

Project Measures: water quality; archaeological resources; disease/pest conditions; Habitat usage; Land use

Web Link(s): http://www.penobscotnation.org/DNR/forest_management_goals.htm
http://www.penobscotnation.org/DNR/DNR1.htm
http://www.penobscotnation.org/DNR/forestry.htm

Penobscot Water Quality Program

National Fish Tissue Study

Project Objective(s): The statistical design of the 4 year study will allow us to develop national estimates of the mean concentrations of 268 chemicals in fish tissue from lakes and reservoirs of the lower 48 States.
study results will define national background levels for the 265 chemicals in fish, to provide a baseline to track progress of pollution control activities, and to identify areas where contaminant levels are high enough to warrant further investigation.

Project Measures: Fish tissue contaminant composition

Web Link(s): http://www.penobscotnation.org/DNR/PINWQP.htm
http://www.penobscotnation.org/DNR/DNR1.htm
http://www.epa.gov/waterscience/fishstudy/

Southern Appalachian Man and the Biosphere

Southern Appalachian Man and the Biosphere

Project Objective(s): The Southern Appalachian Man and the Biosphere (SAMAB) Program is a public/private partnership that focuses its attention on the Southern Appalachian Biosphere Reserve. The program encourages the utilization of ecosystem and adaptive management principles. SAMAB's vision is to foster a harmonious relationship between people and the Southern Appalachian environment. Its mission is to promote the environmental health and stewardship of natural, economic, and cultural resources in the Southern Appalachians. It encourages community-based solutions to critical regional issues through cooperation among partners, information gathering and sharing, integrated assessments, and demonstration projects.

Project Measures: Air quality; Ecosystem Health; Invasive species

Web Link(s):

U.S. Fish and Wildlife Service

Gulf of Maine Coastal Program

Atlantic Salmon Watersheds, Maine: Habitat Identi

Project Objective(s): Mapping spawning and nursery habitat, developing watershed land cover information, providing assistance to watershed coalitions by identifying potential threats to salmon survival, providing technical assistance to partners.

restoring natural river channels, and developing on-the-ground partnerships to protect salmon habitat.

Project Measures: fish distribution and abundance; Habitat classification/profiling

Web Link(s): http://gulfofmaine.fws.gov/salmon.html
http://gulfofmaine.fws.gov/documents/salmon.pdf

U.S. Fish and Wildlife Service

Gulf of Maine Coastal Program

Gulf of Maine Watershed Habitat Analysis

Project Objective(s): Identified, mapped, and ranked important fish and wildlife habitat for priority species throughout the Gulf of Maine watershed.

Project Measures: Habitat usage; fish distribution and abundance; waterfowl reproductive success

Web Link(s): http://gulfofmaine.fws.gov/gomanalysis/gomanalysis.html
http://gulfofmaine.fws.gov/gomanalysis/documents/gomanalysis.pdf

U.S. Forest Service

Air Resources Program

Project Objective(s): The Mission of the Air Resource Program is to protect and/or enhance air quality on the National Forest. As we work to implement this mission we in effect, provide for cleaner air and healthier forests in all of southern Vermont. To achieve this mission we: Monitor the effects of air quality on components of the forest ecosystem. Monitoring is done in cooperation with several state and federal agencies, and educational institutions; Evaluate the impacts of proposed new major emissions sources on Lye Brook Wilderness, our Class I Air Quality Area; Evaluate the effects of Forest Service management activities on air quality; Share our monitoring information and expertise with the public.

Project Measures: Air quality

Web Link(s): http://www.fs.fed.us/r9/gmfl/resource_management/air/air.htm

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.

Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.

Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures: Soil characteristics; Tree condition; Lichens; Air quality

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/

U.S. Geologic Survey

North American Breeding Bird Survey

North American Breeding Bird Survey

Project Objective(s): To monitor the status and trends of North American bird populations.

Project Measures: avian distribution and abundance

Web Link(s): http://www.mp2-pwrc.usgs.gov/bbs/

Southeastern Amphibian Research and Monitoring Initiative

Great Smoky Mountains NP I&M Project

Project Objective(s): Provide a geographically-referenced inventory of the amphibian resources of the Great Smoky Mountains National Park.

Provide indices of abundance of Park amphibian species, referenced to locations and habitat types. Develop and transfer to the Great Smoky Mountains National Park and National Park Service a series of protocols suitable for long-term monitoring of amphibian populations in the Smokies and other Appalachian Parks.

As possible, evaluate current distributions and abundance of amphibian species in the Park with literature reports of past investigations.

Project Measures: Amphibians

Web Link(s): http://cars.er.usgs.gov/Amphibians_and_Reptiles/Herp_Program_Goals/herp_program_goals.html

University of Maine Cooperative Extension

Maine Shore Stewards

Clean Water/Partners in Monitoring

Project Objective(s): study the health of estuarine water by monitoring for dissolved oxygen, temperature, pH, salinity, and fecal coliform bacteria.

As a result of successful monitoring efforts in Maine, thousands of acres of clam flats have been opened.

Project Measures:

Fecal coliform	Temperature	Dissolved Oxygen
pH	Salinity	

Web Link(s): http://www.ume.maine.edu/ssteward/cwpim.htm

Vermont Department of Environmental Conservation

Air Pollution Control Division

Ambient Air Toxics Monitoring in Vermont

Project Objective(s): The Vermont Air Pollution Control Division (APCD) has been monitoring a battery of toxics in the ambient air at several locations in the state since 1993.

The toxics monitored include volatile organic compounds (VOCs), carbonyls, metals and semi-volatiles.

Project Measures:

toxic elements	Carbon monoxide	Ozone
Nitrogen Oxides	particulate matter	sulfur dioxide

Web Link(s): http://www.anr.state.vt.us:8500/public/dec/air/Planning/htm/AirToxMonitoring.htm

Water Quality Division

Biomonitoring and Aquatic Studies Section (BASS)

Project Objective(s): To conduct environmental monitoring of aquatic resources, with an emphasis on the assessment of biological integrity.

BASS also conducts special studies in areas of special concern such as acid rain, malformed frogs, aquatic nuisance control and seasonal pools.

Project Measures:

Macroinvertebrates	Water chemistry	Habitat usage

Web Link(s): http://dep.state.ct.us/air2/toxics/monitiat.htm

Vermont Department of Fish and Wildlife

Nongame and Natural Heritage Program

Natural Communities

Project Objective(s): To protect natural communities which are an assemblage of plants and animals that are found recurring across a specific landscape under similar environmental conditions where natural processes, rather than human disturbances, prevail.

Project Measures: Rare community distribution and composition

Web Link(s): http://www.anr.state.vt.us/fw/fwhome/nnhp/index.html
http://www.vtfishandwildlife.com/
http://www.vtfishandwildlife.com/wildlife_nongame.cfm

Rare Animal Species

Project Objective(s): We are actively tracking rare species with the following state ranks: SH, S1,S2 (breeding records only for birds). We are also interested in information on uncommon species S3.

Project Measures:

rare vertebrate distribution and abundance	rare invertebrate distribution and abundance

Web Link(s): http://www.anr.state.vt.us/fw/fwhome/nnhp/index.html
http://www.vtfishandwildlife.com/
http://www.vtfishandwildlife.com/wildlife_nongame.cfm

Rare Plant Species

Project Objective(s): We are actively tracking rare species with the following state ranks (SH, S1, S2). However, we are also interested in information on uncommon species (S3).

Project Measures: rare plant distribution and abundance

Web Link(s): http://www.anr.state.vt.us/fw/fwhome/nnhp/Intro%20to%20Plant%20R,T,E%202000.htm
http://www.vtfishandwildlife.com/
http://www.vtfishandwildlife.com/wildlife_nongame.cfm

Vermont Institute of Natural Science

Mountain Bird Watch

Mountain Bird Watch

Project Objective(s): Mountain Birdwatch is a long-term monitoring program for songbirds that breed in high-elevation forests of the Northeast. Skilled volunteers conduct annual surveys along 1-km routes that are located on mountains in New York, Vermont, New Hampshire, and Maine. Primary emphasis is placed on Bicknell's Thrush, the region's only endemic bird species, and a montane fir specialist that is vulnerable to ongoing and projected habitat loss. Other focal species include Blackpoll Warbler, Swainson's Thrush, White-throated Sparrow, and Winter Wren. In 2002, Mountain Birdwatchers gathered observations from 142 locations, with point count surveys completed on 118 routes.

Project Measures: avian distribution and abundance

Web Link(s): http://www.vinsweb.org/cbd/mtn_birdwatch.html

Vermont Butterfly Survey

Project Objective(s): The Vermont Butterfly Survey is a five-year census to document the relative abundance and distribution of butterflies across Vermont.
To learn which butterfly species exist in Vermont.
Allow Vermonters to contribute to a greater understanding of the nature of their state.

Project Measures: lepidopteron distribution and abundance

Web Link(s): http://www.uvm.edu/~vbap/index.html

Vermont Monitoring Cooperative

Amphibian Survey and Monitoring

Salamanders and Frogs on Mount Mansfield and The L

Project Objective(s): The purpose of this study is to establish baseline population data that can be compared to future surveys and be compared to data collected in the following years to look for trends or changes in population numbers and species over time.

Project Measures: Amphibian distribution and abundance; Community composition

Web Link(s): http://vmc.snr.uvm.edu/summary/general001.htm

Basic Meteorological Monitoring

Project Objective(s): The continuous monitoring of a variety of meteorological variables.
The information collected at this site can be used in conjunction with biological or physical information gathered in other projects at or near the site.

Project Measures: Temperature; Wind direction; Wind speed; Relative humidity; Barometric pressure; Precipitation

Web Link(s): http://vmc.snr.uvm.edu/summary/general006.htm

Bicknell's Thrush: Population Demographics and Ecology

Project Objective(s): To monitor population densities and determine the breeding ecology of Bicknell's Thrush, to assess the conservation status of this bird regionally, and to determine the effects of ski area development on the forest bird community.

Project Measures: avian distribution and abundance

Web Link(s): http://vmc.snr.uvm.edu/summary/general049.htm

Forest Bird Monitoring

Project Objective(s): To determine long-term bird population changes in protected, non-fragmented habitats.
Results will help provide insights into how forest fragmentation in unprotected areas may affect the relative abundance of forest-breeding songbirds.

Project Measures: avian distribution and abundance; breeding; Habitat usage; Habitat classification/profiling

Web Link(s): http://vmc.snr.uvm.edu/bird.html
http://vmc.snr.uvm.edu/summary/general013.htm

Vermont Monitoring Cooperative

Landscape Fall Color and Leaf Drop Monitoring

Project Objective(s): To develop a visual rating system for monitoring fall color and leaf drop on a landscape scale on Mount Mansfield.

Project Measures: Fall foliage color quality; Fall foliage color composition

Web Link(s): http://vmc.snr.uvm.edu/summary/general031.htm
http://vmc.snr.uvm.edu/summary.asp?tab=1

Pine Mountain Biodiversity Project

Project Objective(s): The variety of plants and animals, their genetic variability, their interrelationships, and the biological and physical systems, communities and landscapes in which they exist.

Project Measures: Species diversity; Natural communities; Geology; Water resources; Climate

Web Link(s): http://vmc.snr.uvm.edu/summary/generalpineMT.htm

Virginia Department of Conservation and Recreation

Natural Heritage Program

Invasive Plants

Project Objective(s): VA has identified 115 invasive alien plant species that threaten or potentially threaten natural areas, parks, and other protected lands in Virginia.

Project Measures: disease/pest conditions

Web Link(s): http://www.dcr.state.va.us/dnh/invinfo.htm

Natural Communities

Project Objective(s): An ecological community is an assemblage of co-existing, interacting species, considered together with the physical environment and associated processes, that usually recurs on the landscape.
This present treatment is restricted to NATURAL COMMUNITIES, those which have experienced only minimal human alteration or have recovered from anthropogenic disturbance under mostly natural regimes of species interaction and disturbance.
Provide a comprehensive classification of Natural Communities in VA and construct a broad framework for understanding and defining such communities at several hierarchical levels.

Project Measures: Rare community distribution and composition; vegetation; Wetland community composition and distribution

Web Link(s): http://www.dcr.state.va.us/dnh/community_list.pdf

Rare Animal Species

Project Objective(s): Species that use discrete habitat patches or can directly benefit from habitat protection.

Project Measures: rare vertebrate distribution and abundance; rare invertebrate distribution and abundance

Web Link(s): http://www.dcr.state.va.us/dnh/
http://www.dcr.state.va.us/dnh/anlist03.pdf

Rare Plant Species

Project Objective(s): Identify Natural Heritage Resources which are in need of conservation attention while creating an efficient means of evaluating the impacts of economic growth.
Focus the inventory on the Natural Heritage Resources most likely to be lost without conservation action in the near future.

Project Measures: rare plant distribution and abundance; Vascular plants; Non-Vascular plants

Web Link(s): http://www.dcr.state.va.us/dnh/plantlist03.pdf

Boston Harbor Island, a National Park Area

Center for Sponsored Coastal Ocean Research

ECOHAB Ecology and Oceanography of Harmful Algal Blooms

Gulf of Maine

Project Objective(s): goal of the ECOHAB program is to develop reliable models to forecast bloom development, persistence, and toxicity.
This research will foster rapid response by monitoring agencies and health departments to safeguard public health, local economies, and fisheries.
Further, identification of bloom-favorable conditions may permit management of specific environmental factors to reduce bloom impacts.

Project Measures: Algae

Web Link(s): http://www.cop.noaa.gov/Fact_Sheets/ECOHAB.html

U.S. Global Ocean Ecosystem Dynamics (GLOBEC)

GLOBEC Georges Bank

Project Objective(s): Distribution and Status of High Priority Species.
The proximate goal of the Georges Bank program is to understand the population dynamics of key species on the Bank - cod, haddock, and two species of zooplankton.
goal is to be able to predict changes in the distribution and abundance of these species as a result of changes in their physical and biotic environment as well as to anticipate how their populations might respond to climate variability and change.

Project Measures: water quality; fish distribution and abundance

Web Link(s): http://www.cop.noaa.gov/Fact_Sheets/GLOBECNWA.html

Institute for Bird Populations

Monitoring Avian Productivity and Survivorship

Avian Inventory Program

Project Objective(s): indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured.
estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from mark-recapture data on adult birds.

Project Measures: avian distribution and abundance

Web Link(s): http://www.birdpop.org
http://www.birdpop.org/avianinv.htm
http://www.birdpop.org/maps.htm

Massachusetts Audubon

Important Bird Areas (IBA)

Project Objective(s): To identify, nominate, and designate key sites that contribute to the preservation of significant bird populations or communities.
To provide information that will help land managers evaluate areas for habitat management and/or land acquisition.
To activate public and private participation in bird conservation efforts.
To provide public education and community outreach opportunities.

Project Measures: avian distribution and abundance; Habitat usage; threatened & endangered breeding

Web Link(s): http://www.massaudubon.org/index.php
http://www.massaudubon.org/Birds_&_Beyond/IBAs/index.php

Massachusetts Department of Environmental Protection

Air Program Planning Unit

Addressing Air Toxics in Massachusetts

Project Objective(s): In order to protect the health of Massachusetts' residents and preserve our environment; aims to reduce the emissions and ambient air impact of a number of toxic air pollutants likely to be used by business, industry, and individuals in the state.
TURA (Massachusetts Toxic Use Reduction Act)focusing on pollution prevention as a way to comply with regulatory standards while increasing the economic competitiveness of Massachusetts industry.
Ozone Reduction is the reduction of volatile organic compound (VOCs) emissions from a variety of sources, including industry and mobile sources.

Project Measures:

polycyclic aromatic hydrocarbons	Chromium	benzene
toluene	xylenes	perchloroethylene
methylene chloride	Cadmium	mercury monitoring

Web Link(s): http://www.state.ma.us/dep/bwp/daqc/files/airtox.htm

Wetlands Conservancy Program

Project Objective(s): The DEP is mapping the state's wetlands using aerial photography and photointerpretation to delineate wetland boundaries which is used to document the extent and type of the state's wetlands.

Project Measures: Wetland community composition and distribution

Web Link(s): http://www.state.ma.us/dep/brp/
http://www.state.ma.us/dep/brp/ww/rpwwhome.htm
http://www.state.ma.us/dep/brp/ww/files/wcpbroch.pdf

Eelgrass Mapping

Project Objective(s): Massachusetts has completely mapped its Eelgrass beds along the coast and is distributing these to conservation commissions: Eelgrass beds are good indicators of water quality.

Project Measures: Herbaceous plants; Mapping

Web Link(s): http://www.state.ma.us/dep/brp/ww/files/wcpbroch.pdf

Massachusetts Division of Fisheries and Wildlife

Natural Heritage & Endangered Species Program

Natural Communities

Project Objective(s): The Massachusetts Natural Heritage Program actively inventories and tracks the distribution and status of uncommon and exemplary natural communities across the state.
Conservation priority should be given to: natural communities with limited distribution across ecoregions within the state, those with restricted global distribution, and those common types for which the best documented examples occur in Massachusetts.

Project Measures: Rare community distribution and composition

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhcommun.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Rare Animal Species

Project Objective(s): The Program's highest priority is protecting the approximately 190 species of vertebrate and invertebrate animals that are officially listed as endangered, threatened or of special concern in Massachusetts.

Project Measures:

rare vertebrate distribution and abundance	rare invertebrate distribution and abundance

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhspecies.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Rare Plant Species

Project Objective(s): The Program's highest priority is protecting the approximately 258 species of native plants that are officially listed as Endangered, Threatened or of Special Concern in Massachusetts.

Project Measures: rare plant distribution and abundance; Habitat usage

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhspecies.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Massachusetts Division of Fisheries and Wildlife

Natural Heritage & Endangered Species Program

Vernal Pools

Project Objective(s): The NHESP serves the important role of officially "certifying" vernal pools that are documented by citizens. Finding vernal pools is the first step for protection.

Project Measures:

Rare community distribution and composition	Habitat usage	Wetland community composition and distribution

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhvernal.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Massachusetts Office of Coastal Zone Management

Coastal 2000 - Comprehensive Marine Monitoring Program

Project Objective(s): Surface sediments from 90 randomly selected stations will be sampled through the summer of 2001 for a variety of contaminants of environmental concern, both inorganic and organic.
Water column samples will be taken at each site to provide a "snapshot" of hydrographic variables, nutrients, pigments, and suspended matter at the time of sampling.
Fish trawls will also be conducted to assess the composition of fish communities, and any pathology or parasites found.

Project Measures:

Sediment contaminant composition	Water column contaminant composition	PCB
PAH	Pesticide	Temperature
Salinity	Nutrients	Pigments
Suspended solids	disease/pest conditions	Community composition

Web Link(s): http://www.state.ma.us/czm/coastal2k.htm

Coastal Nonpoint Pollution Control Plan

Gulf Watch

Project Objective(s): Through the Coastal Nonpoint Pollution Control Plan, mechanisms are established to reduce the impacts of nonpoint source pollution on the aquatic resources and habitats of Massachusetts coastal watersheds.
The plan details enforceable measures for implementing best management practices designed to reduce nonpoint source (NPS) pollutant loading to ground and surface waters of the coastal environment.

Project Measures:

Molluscan contamination	organic contaminants	metal contaminants
water quality		

Web Link(s): http://www.state.ma.us/czm/gulf_watch.htm
http://www.state.ma.us/czm/npsprog.htm
http://www.state.ma.us/czm/inventory.htm - Data%20Table%20Description

Massachusetts Historic Shoreline Change Project

Project Objective(s): Coastal shorelines change constantly in response to wind, waves, tides, sea level fluctuation, seasonal and climatic variation, human alteration, and other factors that influence the movement of sand and material within a shoreline system.
The loss (erosion) and gain (accretion) of coastal land is a visible result of the way shorelines are reshaped in the face of these dynamic conditions.
CZM completed a statistical analysis from the mid-1800s to 1978 for Massachusetts' ocean-facing coastline and produced 76 maps showing several historic shorelines to demonstrate long-term shoreline change.
CZM recently completed an update of the Shoreline Change Project produce a 1994 shoreline, add it to the previous project, and update the statistics and calculate erosion rates.

Project Measures:

Erosion	changes in topography of marine barrier systems

Web Link(s): http://www.state.ma.us/czm/shorelinechangeproject.htm

Wetland Ecology and Assessment

Project Objective(s): To develop and evaluate techniques for assessing the ecological integrity of coastal wetlands in order to.
Inventory of wetland sites in specific areas; Report on wetland condition;
Identify degraded wetland sites; Evaluate restoration potential; Monitor restoration response.
To transfer techniques to interested parties, with an emphasis on training and assisting volunteers.
To convey the assessment methods and results to coastal wetland decision-makers.

Project Measures: Land use; water quality
Web Link(s): http://www.state.ma.us/czm/wastart.htm

Massachusetts Office of Coastal Zone Management

Wetland Ecology and Assessment

Cape Cod Salt Marsh Assessment Project

Project Objective(s): examined salt marsh indicators; these sites had varying types and intensities of human land use or disturbance.
second investigation: comparison of indicators from three pairs of salt marshes–each pair having a marsh area with restricted tidal hydrology and a corresponding area with normal tidal hydrology.

Project Measures: Habitat classification/profiling; Land use; water quality
Web Link(s): http://www.state.ma.us/czm/wetlandassesscape.htm
http://www.state.ma.us/czm/wastart.htm

North Shore Wetland Assessment Project

Project Objective(s): There is a continued need to establish long-term datasets for wetland reference sites.
It is also important to see if the Wetland Assessment Method can be transferred to other applications, such as the investigation of tidal hydrological restrictions of salt marsh wetlands.

Project Measures:

Land use	Invertebrate distribution and status	water quality
vegetation		

Web Link(s): http://www.state.ma.us/czm/wetlandassessnorth.htm

Waquoit Bay Wetlans Assessment Project

Project Objective(s): Goal was to develop, test, and refine a transferable approach for wetlands evaluation to determine the effects of adjacent land uses and nonpoint sources (NPS) of pollution on the condition of these aquatic resources.

Project Measures: Land use | water quality | vegetation

Web Link(s): http://www.state.ma.us/czm/wetlandassesswaquoit.htm
http://www.state.ma.us/czm/wastart.htm

Massachusetts Water Resources Authority

Boston Harbor Project

Project Objective(s): Water Quality Data.

Project Measures: Bacteria | Suspended solids | Water clairty
Dissolved Oxygen | Nutrients | Algae

Web Link(s): http://www.mwra.state.ma.us/harbor/html/wklyintr.htm
http://www.mass.gov/portal/index.jsp?pageID=mg2constituent&L=2&L0=Home&L1=State%20Government&sid=massgov2

National Atmospheric Deposition Program

Mercury Depostion Network (MDN)

Project Objective(s): The objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition.
The data will be used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Project Measures: mercury monitoring | Precipitation composition | methylmercury

Web Link(s): http://nadp.sws.uiuc.edu/mdn/

National Oceanic and Atmospheric Administration

Marine Monitoring Programs in the Gulf of Maine

MARMAP

Project Objective(s): 1)Assess the seasonal, interannual, and decadal variability in the planktonic and oceanographic components of the Northeast Shelf Ecosystem.
2) characterize changes in these variables as an indication of broad-scale ecological and environmental changes.
3) develop appropriate indices of the changing states of the marine ecosystem.

Project Measures: Phytoplankton | Zooplankton abundance and composition | Water column temperature
Surface salinity | Meteorological conditions

Web Link(s): http://www.stat.psu.edu/~gpp/marmap_system_partnership.htm
http://gulfofmaine.org/library/pdf/mon_inventory.pdf
http://gulfofmaine.org/library/monitoring_inventory.html

National Estuarine Research Reserve System

Biological

Project Objective(s): Biological monitoring is used for detecting the health of aquatic environments and assessing the relative severity of the pollution impacts.

Project Measures: Chlorophyll a | Submerged aquatic vegetation | Emergent vegetation

Web Link(s): http://nerrs.noaa.gov/Monitoring/Biological.html

Water Quality

Project Objective(s): Indicators of habitat quality for numerous estuarine species and to determine health criteria and human uses.

Project Measures: Water Temperature | Water Depth | Salinity
pH | Dissolved Oxygen | Turbidity

Web Link(s): http://nerrs.noaa.gov/Monitoring/Water.html

National Status and Trends Program

Mussel Watch

Project Objective(s): This project is designed to monitor the status of and temporal changes in metal and organic contaminants in Great Lakes, estuarine and coastal waters using bivalve molluscs as sentinel organisms.

Project Measures: Crustacean contaminant loads | PAH | PCB
Pesticide | Trace Elements | Reproductive development
disease/pest conditions | Size frequency

Web Link(s): http://vertigo.hsrl.rutgers.edu/NST.html
http://nsandt.noaa.gov/

National Benthic Surveillance Project

Project Objective(s): To determine the current status of and to detect any long-term trends in the environmental quality of the nearshore waters of the United States.
The primary objective was to determine concentrations of more than 70 organic and inorganic contaminants in the liver and bile of bottom dwelling fishes and associated surficial sediment from coastal and estuarine waters.

Project Measures: Bile and liver contamination loads; PAH; PCB; Butyltins; DDT and metabolites; Chlorinated pesticides

Web Link(s): http://nsandt.noaa.gov/

Sea Grant

Paralytic Shellfish Poisoning Monitoring Program

Project Objective(s): A national plan has been prepared to guide research and monitoring programs on all aspects of the harmful algal bloom (HAB) problem, from toxin detection to resource management to bloom ecology.

Project Measures: Algal Blooms ("Red Tide"); Alexandrium

Web Link(s): http://www.seagrantnews.org/news/whoi.html

U.S. Army Corps of Engineers

Disposal Area Monitoring System (DAMOS)

New England District

Project Objective(s): Manage and monitor offshore dredged material disposal sites from Long Island Sound to Maine.

Project Measures: Sediment contaminant composition

Web Link(s): http://www.nae.usace.army.mil/environm/damos/splash_page.htm

U.S. Fish and Wildlife Service

Gulf of Maine Coastal Program

Gulf of Maine Watershed Habitat Analysis

Project Objective(s): Identified, mapped, and ranked important fish and wildlife habitat for priority species throughout the Gulf of Maine watershed.

Project Measures: Habitat usage; fish distribution and abundance; waterfowl reproductive success

Web Link(s): http://gulfofmaine.fws.gov/gomanalysis/gomanalysis.html
http://gulfofmaine.fws.gov/gomanalysis/documents/gomanalysis.pdf

U.S. Forest Service

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.
Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.
Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures: Soil characteristics; Tree condition; Lichens; Air quality

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/

U.S. Geologic Survey

North American Breeding Bird Survey

North American Breeding Bird Survey

Project Objective(s): To monitor the status and trends of North American bird populations.

Project Measures: avian distribution and abundance

Web Link(s): http://www.mp2-pwrc.usgs.gov/bbs/

Marsh-Billings-Rockefeller National Historic Park

Institute for Bird Populations

Monitoring Avian Productivity and Survivorship

Avian Inventory Program

Project Objective(s): indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured.
estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from mark-recapture data on adult birds.

Project Measures: avian distribution and abundance

Web Link(s): http://www.birdpop.org
http://www.birdpop.org/avianinv.htm
http://www.birdpop.org/maps.htm

Long Term Ecological Research Network

Hubbard Brook

Project Objective(s): Core Research Questions : (i) Dynamic patterns and control of primary production, over time, and in relation to natural and induced stresses or disturbances; (ii) Dynamics of selected populations of seed plants, saprophytic organisms, invertebrates, fish, birds and mammals in relation to time as well as natural and induced stresses or disturbances; (iii) Patterns and control of organic accumulation (biomass) in surface layers and substrate (or sediment) in relation to time or natural and Induced stresses or disturbances; (iv) Patterns of inorganic contributions (atmospheric or hydrologic) and movement through soils, groundwater, streams and lakes in relation to time and natural or induced stresses or disturbances; (v) Patterns and frequency of apparent site interventions (disturbances) over space and time (drought, fire, windthrow, insects or other perturbations) that may be a product of, or induce, long-term trends.

Project Measures:

Climate	Weather	Hydrology
Forest community composition and distribution	Habitat classification/profiling	Natural communities
Water chemistry		

Web Link(s): www.hubbardbrook.org

National Atmospheric Deposition Program

Atmospheric Integrated Research Monitoring Network (AIRMoN)

AIRMonN-Wet & AIRMoN-Dry

Project Objective(s): Determining the effectiveness of emission controls mandated by the Clean Air Act.
Evaluating the potential impacts of new sources of emissions on protected areas such as Class I Wilderness Areas.
Identifying source/receptor relationships in atmospheric models.
AIRMoN was designed to provide data with a greater temporal resolution.

Project Measures:

Precipitation composition	nitrogen	Ozone
sulfur dioxide	gaseous nitric acid	

Web Link(s): http://nadp.sws.uiuc.edu/airmon/

U.S. Forest Service

Air Resources Program

Project Objective(s): The Mission of the Air Resource Program is to protect and/or enhance air quality on the National Forest. As we work to implement this mission we in effect, provide for cleaner air and healthier forests in all of southern Vermont. To achieve this mission we: Monitor the effects of air quality on components of the forest ecosystem. Monitoring is done in cooperation with several state and federal agencies, and educational institutions; Evaluate the impacts of proposed new major emissions sources on Lye Brook Wilderness, our Class I Air Quality Area; Evaluate the effects of Forest Service management activities on air quality; Share our monitoring information and expertise with the public.

Project Measures: Air quality

Web Link(s): http://www.fs.fed.us/r9/gmfl/resource_management/air/air.htm

U.S. Forest Service

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.

Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.

Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures:

Soil characteristics	Tree condition	Lichens
Air quality		

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/

U.S. Geologic Survey

North American Breeding Bird Survey

North American Breeding Bird Survey

Project Objective(s): To monitor the status and trends of North American bird populations.

Project Measures: avian distribution and abundance

Web Link(s): http://www.mp2-pwrc.usgs.gov/bbs/

Vermont Audubon

Important Bird Areas (IBA)

Project Objective(s): Currently working on Phase II of the program which focuses on completing the Vermont IBA Technical Report along with supporting and developing monitoring projects at Vermont's IBAs.

Sites important to: endangered or threatened species, species of high conservation priority, that contain rare or unique habitat, where significant numbers of birds concentrate for breeding, during migration, or in winter, & long-term research/monitoring.

Project Measures:

Habitat usage	breeding	avian distribution and abundance

Web Link(s): http://vt.audubon.org/iba.html
http://vt.audubon.org/IBACrit.html

Vermont Department of Environmental Conservation

Air Pollution Control Division

Ambient Air Toxics Monitoring in Vermont

Project Objective(s): The Vermont Air Pollution Control Division (APCD) has been monitoring a battery of toxics in the ambient air at several locations in the state since 1993.

The toxics monitored include volatile organic compounds (VOCs), carbonyls, metals and semi-volatiles.

Project Measures:

toxic elements	Carbon monoxide	Ozone
Nitrogen Oxides	particulate matter	sulfur dioxide

Web Link(s): http://www.anr.state.vt.us:8500/public/dec/air/Planning/htm/AirToxMonitoring.htm

Water Quality Division

Biomonitoring and Aquatic Studies Section (BASS)

Project Objective(s): To conduct environmental monitoring of aquatic resources, with an emphasis on the assessment of biological integrity.

BASS also conducts special studies in areas of special concern such as acid rain, malformed frogs, aquatic nuisance control and seasonal pools.

Project Measures:

Macroinvertebrates	Water chemistry	Habitat usage

Web Link(s): http://dep.state.ct.us/air2/toxics/monitiat.htm

Vermont Department of Fish and Wildlife

Nongame and Natural Heritage Program

Natural Communities

Project Objective(s): To protect natural communities which are an assemblage of plants and animals that are found recurring across a specific landscape under similar environmental conditions where natural processes, rather than human disturbances, prevail.

Project Measures: Rare community distribution and composition

Web Link(s): http://www.anr.state.vt.us/fw/fwhome/nnhp/index.html
http://www.vtfishandwildlife.com/
http://www.vtfishandwildlife.com/wildlife_nongame.cfm

Rare Animal Species

Project Objective(s): We are actively tracking rare species with the following state ranks: SH, S1,S2 (breeding records only for birds). We are also interested in information on uncommon species S3.

Project Measures: rare vertebrate distribution and abundance; rare invertebrate distribution and abundance

Web Link(s): http://www.anr.state.vt.us/fw/fwhome/nnhp/index.html
http://www.vtfishandwildlife.com/
http://www.vtfishandwildlife.com/wildlife_nongame.cfm

Rare Plant Species

Project Objective(s): We are actively tracking rare species with the following state ranks (SH, S1, S2). However, we are also interested in information on uncommon species (S3).

Project Measures: rare plant distribution and abundance

Web Link(s): http://www.anr.state.vt.us/fw/fwhome/nnhp/Intro%20to%20Plant%20R,T,E%202000.htm
http://www.vtfishandwildlife.com/
http://www.vtfishandwildlife.com/wildlife_nongame.cfm

Vermont Institute of Natural Science

Mountain Bird Watch

Mountain Bird Watch

Project Objective(s): Mountain Birdwatch is a long-term monitoring program for songbirds that breed in high-elevation forests of the Northeast. Skilled volunteers conduct annual surveys along 1-km routes that are located on mountains in New York, Vermont, New Hampshire, and Maine. Primary emphasis is placed on Bicknell's Thrush, the region's only endemic bird species, and a montane fir specialist that is vulnerable to ongoing and projected habitat loss. Other focal species include Blackpoll Warbler, Swainson's Thrush, White-throated Sparrow, and Winter Wren. In 2002, Mountain Birdwatchers gathered observations from 142 locations, with point count surveys completed on 118 routes.

Project Measures: avian distribution and abundance

Web Link(s): http://www.vinsweb.org/cbd/mtn_birdwatch.html

Vermont Butterfly Survey

Project Objective(s): The Vermont Butterfly Survey is a five-year census to document the relative abundance and distribution of butterflies across Vermont.
To learn which butterfly species exist in Vermont.
Allow Vermonters to contribute to a greater understanding of the nature of their state.

Project Measures: lepidopteran distribution and abundance

Web Link(s): http://www.uvm.edu/~vbap/index.html

Vermont Monitoring Cooperative

Amphibian Survey and Monitoring

Salamanders and Frogs on Mount Mansfield and The L

Project Objective(s): The purpose of this study is to establish baseline population data that can be compared to future surveys and be compared to data collected in the following years to look for trends or changes in population numbers and species over time.

Project Measures: Amphibian distribution and abundance; Community composition

Web Link(s): http://vmc.snr.uvm.edu/summary/general001.htm

Basic Meteorological Monitoring

Project Objective(s): The continuous monitoring of a variety of meteorological variables.
The information collected at this site can be used in conjunction with biological or physical information gathered in other projects at or near the site.

Project Measures: Temperature; Wind direction; Wind speed; Relative humidity; Barometric pressure; Precipitation

Web Link(s): http://vmc.snr.uvm.edu/summary/general006.htm

Bicknell's Thrush: Population Demographics and Ecology

Project Objective(s): To monitor population densities and determine the breeding ecology of Bicknell's Thrush, to assess the conservation status of this bird regionally, and to determine the effects of ski area development on the forest bird community.

Project Measures: avian distribution and abundance

Web Link(s): http://vmc.snr.uvm.edu/summary/general049.htm

Biological and Chemical Survey of Selected Surface Waters in Lye Brook Wilderness Area

Project Objective(s): To establish baseline chemical and biological characteristics that could be compared to future monitoring data for evidence of change and its potential relationship to air quality data for the region.

Project Measures:

Water chemistry	Sediment contaminant composition	Macroinvertebrates
fish distribution and abundance	Contaminant load of freshwater fishes	

Web Link(s):
http://vmc.snr.uvm.edu/summary/general012.htm
http://vmc.snr.uvm.edu/subproj.asp?ID=89
http://vmc.snr.uvm.edu/subproj.asp?ID=72
http://vmc.snr.uvm.edu/subproj.asp?ID=73
http://vmc.snr.uvm.edu/subproj.asp?ID=75
http://vmc.snr.uvm.edu/subproj.asp?ID=74

Cloudwater chemistry on Mount Mansfield

Project Objective(s): Sample cloud/fog water at timberline: three sets of paired funnels simultaneously collected cloud throughfall under the red spruce-balsam fir canopy.

Project Measures:

Precipitation composition	pH	Conductivity
mercury monitoring	Calcium	Potassium
Magnesium	Sodium	Chloride
Sulfate	Nitrate	

Web Link(s):
http://vmc.snr.uvm.edu/subproj.asp?ID=67
http://vmc.snr.uvm.edu/summary/general071.htm

Evaluating Crown Canopy Changes In Vermont

Ice-Damaged Forests by Image Analysis

Project Objective(s): This research project uses image analysis to evaluate crown canopy changes as a consequence of the 1998 ice storm.

Project Measures: forest canopy closure

Web Link(s):
http://vmc.snr.uvm.edu/summary/general084.htm

Vermont Monitoring Cooperative

Forest Bird Monitoring

Project Objective(s): To determine long-term bird population changes in protected, non-fragmented habitats. Results will help provide insights into how forest fragmentation in unprotected areas may affect the relative abundance of forest-breeding songbirds.

Project Measures:

avian distribution and abundance	breeding	Habitat usage
Habitat classification/profiling		

Web Link(s):
http://vmc.snr.uvm.edu/bird.html
http://vmc.snr.uvm.edu/summary/general013.htm

Forest Environmental Monitoring (Canopy Tower)

Project Objective(s): improve our knowledge of how atmospheric conditions vary at different elevations in the forest canopy and how the interactions between the forest canopy and the atmosphere may vary between those elevations.

Project Measures: Carbon dioxide, Ozone

Web Link(s):
http://vmc.snr.uvm.edu/summary/general055.htm

Forest Pest Monitoring

Project Objective(s): Identify and observe trends in major insect pest populations, predict tree susceptibility based on the insect emergence-tree phenology relationship, and record levels of tree damage resulting from insect attack.

Project Measures:

disease/pest conditions	Forest Tent Caterpillar	Spring Hemlock Looper
Fall Hemlock Looper	Spruce Budworm	Gypsy Moth
Pear Thrips		

Web Link(s):
http://vmc.snr.uvm.edu/summary/general026.htm
http://vmc.snr.uvm.edu/subproj.asp?ID=81
http://vmc.snr.uvm.edu/subproj.asp?ID=79
http://vmc.snr.uvm.edu/subproj.asp?ID=80

Insect Diversity on Mount Mansfield

Project Objective(s): Survey insects to establish permanent monitoring sites for long-term trend information, establish site-specific data on species abundance and diversity, compare and contrast insect biodiversity in forest habitats on Mount Mansfield.

Project Measures: Invertebrate distribution and status; lepidopteron distribution and abundance; Diptera; Hymenoptera; Coleoptera

Web Link(s): http://vmc.snr.uvm.edu/proj.asp?ID=16
http://vmc.snr.uvm.edu/summary/general016.htm

Landscape Fall Color and Leaf Drop Monitoring

Project Objective(s): To develop a visual rating system for monitoring fall color and leaf drop on a landscape scale on Mount Mansfield.

Project Measures: Fall foliage color quality; Fall foliage color composition

Web Link(s): http://vmc.snr.uvm.edu/summary/general031.htm
http://vmc.snr.uvm.edu/summary.asp?tab=1

Long-term monitoring of high elevation understory and leaf litter arthropod communities

Project Objective(s): Investigate how temporal and spatial variation in insect (i.e. prey) biomass has affected the timing of the breeding season, nesting productivity, number of males feeding at a particular nest and chick provisioning rates.

Project Measures: Invertebrate distribution and status; Temporal distribution; Land use

Web Link(s): http://vmc.snr.uvm.edu/summary/general093.htm

Ozone Bioindicator Plant Monitoring

Project Objective(s): Ozone bioindicator plant monitoring is undertaken to detect ozone injury on sensitive native plants.

Project Measures: Herbaceous plants; Ozone; Leaf damage

Web Link(s): http://vmc.snr.uvm.edu/summary/general027.htm

Vermont Monitoring Cooperative

Pine Mountain Biodiversity Project

Project Objective(s): The variety of plants and animals, their genetic variability, their interrelationships, and the biological and physical systems, communities and landscapes in which they exist.

Project Measures: Species diversity; Natural communities; Geology; Water resources; Climate

Web Link(s): http://vmc.snr.uvm.edu/summary/generalpineMT.htm

Population Study of the Endangered Plant Species, Diapensia lapponica, on Mount Mansfield

Project Objective(s): To measure and compare soil depth and slope under the cushions, aspect, cushion area, cushion damage, number and identity of species growing near or with the cushion, and number of flowers.
The population found on Mount Mansfield is important because of its endangered status.

Project Measures: rare plant distribution and abundance; Soil depth; Soil slope; Stem counts; Community composition

Web Link(s): http://vmc.snr.uvm.edu/summary/general126.htm

Small Mammal Survey and Monitoring

Forest Ecosystem Management Demonstration Project

Project Objective(s): Estimate the diversity and relative abundance of small mammals on experimental treatment units of the FEMDP prior to the initiation of silvicultural treatments.

Project Measures: Mammalian distribution and abundance

Web Link(s): http://vmc.snr.uvm.edu/summary/general118.htm

Tree Phenology Monitoring

Project Objective(s): The purpose of this study is to determine how the timing of bud development varies within a tree canopy and at different elevations on the mountain.
Long-term, annual measurements of fall color and leaf drop help establish the timing of late-season developmental events and trends.

Project Measures: Fall foliage color composition; Deciduous leaf drop timing; vegetative & flower bud development

Web Link(s): http://vmc.snr.uvm.edu/summary/general017.htm

Vermont Acid Precipitation Monitoring Program (VAPMP)

Project Objective(s): To assess the impact of the 1970 Clean Air Act, which mandated the improvement of air quality in the vicinity of mid-western and southeastern fossil fuel burning plants.

Project Measures: Acid deposition pH Precipitation

Web Link(s): http://vmc.snr.uvm.edu/summary/general011.htm

Minuteman National Historic Park

Institute for Bird Populations

Monitoring Avian Productivity and Survivorship

Avian Inventory Program

Project Objective(s): indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured.
estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from mark-recapture data on adult birds.

Project Measures: avian distribution and abundance

Web Link(s): http://www.birdpop.org
http://www.birdpop.org/avianinv.htm
http://www.birdpop.org/maps.htm

Massachusetts Audubon

Important Bird Areas (IBA)

Project Objective(s): To identify, nominate, and designate key sites that contribute to the preservation of significant bird populations or communities.
To provide information that will help land managers evaluate areas for habitat management and/or land acquisition.
To activate public and private participation in bird conservation efforts.
To provide public education and community outreach opportunities.

Project Measures:

avian distribution and abundance	Habitat usage	threatened & endangered
breeding		

Web Link(s): http://www.massaudubon.org/index.php
http://www.massaudubon.org/Birds_&_Beyond/IBAs/index.php

Massachusetts Department of Environmental Protection

Air Program Planning Unit

Addressing Air Toxics in Massachusetts

Project Objective(s): In order to protect the health of Massachusetts' residents and preserve our environment; aims to reduce the emissions and ambient air impact of a number of toxic air pollutants likely to be used by business, industry, and individuals in the state.
TURA (Massachusetts Toxic Use Reduction Act)focusing on pollution prevention as a way to comply with regulatory standards while increasing the economic competitiveness of Massachusetts industry.
Ozone Reduction is the reduction of volatile organic compound (VOCs) emissions from a variety of sources, including industry and mobile sources.

Project Measures:

polycyclic aromatic hydrocarbons	Chromium	benzene
toluene	xylenes	perchloroethylene
methylene chloride	Cadmium	mercury monitoring

Web Link(s): http://www.state.ma.us/dep/bwp/daqc/files/airtox.htm

Wetlands Conservancy Program

Project Objective(s): The DEP is mapping the state's wetlands using aerial photography and photointerpretation to delineate wetland boundaries which is used to document the extent and type of the state's wetlands.

Project Measures: Wetland community composition and distribution

Web Link(s): http://www.state.ma.us/dep/brp/
http://www.state.ma.us/dep/brp/ww/rpwwhome.htm
http://www.state.ma.us/dep/brp/ww/files/wcpbroch.pdf

Massachusetts Division of Fisheries and Wildlife

Natural Heritage & Endangered Species Program

Natural Communities

Project Objective(s): The Massachusetts Natural Heritage Program actively inventories and tracks the distribution and status of uncommon and exemplary natural communities across the state.
Conservation priority should be given to: natural communities with limited distribution across ecoregions within the state, those with restricted global distribution, and those common types for which the best documented examples occur in Massachusetts.

Project Measures: Rare community distribution and composition

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhcommun.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Rare Animal Species

Project Objective(s): The Program's highest priority is protecting the approximately 190 species of vertebrate and invertebrate animals that are officially listed as endangered, threatened or of special concern in Massachusetts.

Project Measures: rare vertebrate distribution and abundance; rare invertebrate distribution and abundance

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhspecies.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Rare Plant Species

Project Objective(s): The Program's highest priority is protecting the approximately 258 species of native plants that are officially listed as Endangered, Threatened or of Special Concern in Massachusetts.

Project Measures: rare plant distribution and abundance; Habitat usage

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhspecies.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Vernal Pools

Project Objective(s): The NHESP serves the important role of officially "certifying" vernal pools that are documented by citizens. Finding vernal pools is the first step for protection.

Project Measures: Rare community distribution and composition; Habitat usage; Wetland community composition and distribution

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhvernal.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

National Atmospheric Deposition Program

Mercury Depostion Network (MDN)

Project Objective(s): The objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition.
The data will be used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Project Measures: mercury monitoring; Precipitation composition; methylmercury

Web Link(s): http://nadp.sws.uiuc.edu/mdn/

U.S. Fish and Wildlife Service

Gulf of Maine Coastal Program

Gulf of Maine Watershed Habitat Analysis

Project Objective(s): Identified, mapped, and ranked important fish and wildlife habitat for priority species throughout the Gulf of Maine watershed.

Project Measures: Habitat usage; fish distribution and abundance; waterfowl reproductive success

Web Link(s): http://gulfofmaine.fws.gov/gomanalysis/gomanalysis.html
http://gulfofmaine.fws.gov/gomanalysis/documents/gomanalysis.pdf

U.S. Forest Service

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.
Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.
Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures: Soil characteristics; Tree condition; Lichens; Air quality

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/

U.S. Geologic Survey

North American Breeding Bird Survey

North American Breeding Bird Survey

Project Objective(s): To monitor the status and trends of North American bird populations.

Project Measures: avian distribution and abundance

Web Link(s): http://www.mp2-pwrc.usgs.gov/bbs/

Morristown National Historic Park

National Atmospheric Deposition Program

Mercury Deposition Network (MDN)

Project Objective(s): The objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition.
The data will be used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Project Measures: mercury monitoring | Precipitation composition | methylmercury

Web Link(s): http://nadp.sws.uiuc.edu/mdn/

New Jersey Audubon

Important Bird and Birding Area Program (IBBA)

Project Objective(s): Identify both areas that are essential habitats for sustaining native avian populations (Important Bird Areas), and areas that are exceptional for birdwatching (Important Birding Areas).

Project Measures: breeding | Habitat usage

Web Link(s): http://www.njaudubon.org/Conservation/IBBA/OurIBBA.html
http://www.njaudubon.org/

New Jersey Department of Environmental Protection

Natural Heritage Program

Rare Plants and Animals

Project Objective(s): Identifies the state's most significant natural areas through a comprehensive inventory of rare plant and animal species and representative natural communities.

Project Measures: rare plant distribution and abundance | rare invertebrate distribution and abundance | rare vertebrate distribution and abundance

Web Link(s): http://www.natureserve.org/nhp/us/nj/

U.S. Forest Service

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.
Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.
Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures: Soil characteristics | Tree condition | Lichens
Air quality

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/

Northeast Temperate Network

National Atmospheric Deposition Program

National Atmospheric Deposition Program/National Trends Network (NADP/NTN)

Project Objective(s): The purpose of the network is to collect data on the chemistry of precipitation for monitoring of geographical and temporal long-term trends.

Project Measures:

Precipitation composition	Hydrogen (acidity as pH)	Sulfate
Nitrate	Ammonium	Chloride
Base Cations (such as: Ca, Mg, K, Na)		

Web Link(s): http://nadp.sws.uiuc.edu/

Northeast Aquatic Nuisance Species Panel

Northeast Aquatic Nuisance Species Panel

Project Objective(s): The NEANS Panel addresses issues and concerns relative to the freshwater and marine resources of the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, and New York, and the Canadian provinces of Quebec, New Brunswick, and Nova Scotia. The panel's members represent state, federal, and provincial governments, academia, commercial and recreational fishing interests, recreational boaters, commercial shipping, power and water utilities, environmental organizations, aquaculture, nursery and aquarium trades, tribal concerns, lake associations, and the bait industry, among others.

Project Measures: Invasive species

Web Link(s): http://www.northeastans.org/contactus.htm

Northeast States for Coordinated Air Use Management

Northeast States for Coordinated Air Use Management

Regional

Project Objective(s): Purpose is to exchange technical information, and to promote cooperation and coordination of technical and policy issues regarding air quality control among the member states.

Project Measures:

Ozone	Acid deposition	Carbon monoxide
nitrogen dioxide	Hydrogen (acidity as pH)	

Web Link(s): http://www.nescaum.org/committees/airqual.html

U.S. Forest Service

Forest Health Protection Program

Project Objective(s): There are 5 areas of concern: 1) wildfires & forest health; 2) nonnative invasive insects & pathogens; 3) Invasive plant species; 4) outbreaks of native insects; 5) changing ecological processes.

Project Measures: disease/pest conditions; Invasive species

Web Link(s): http://www.fs.fed.us/projects/
http://www.fs.fed.us/foresthealth/

U.S. Geologic Survey

Geographic Analysis and Monitoring Program

Project Objective(s): Understand what changes are occurring on the land surface and why.
Understand the impacts of these land surface changes on ecosystem health, climate variability, biogeochemical cycles, hydrology, and human health
Understand what the best methods are to incorporate GAM science findings in the decision making process.

Project Measures: Geography

Web Link(s): http://gam.usgs.gov/
http://mapping.usgs.gov/gam.html
http://gam.usgs.gov/gamcurrentstudies.shtml

U.S. Geologic Survey

National Water Quality Assessment Program

Project Objective(s): The condition of our Nation's streams and ground water; 2)How these conditions are changing over time; 3)how do natural features and human activities affect these conditions.

Project Measures:

Temperature	Conductivity	Dissolved Oxygen
pH	Nitrate	Suspended solids
Organic carbon		

Web Link(s): http://www.state.ma.us/czm/usgs_national_water_quality_asse.htm
http://water.usgs.gov/nawqa/

North American Breeding Bird Survey

North American Breeding Bird Survey

Project Objective(s): To monitor the status and trends of North American bird populations.

Project Measures: avian distribution and abundance

Web Link(s): http://www.mp2-pwrc.usgs.gov/bbs/

Northeast Amphibian Research and Monitoring Initiative

Stream Salamanders

Project Objective(s): Using quadrat and transect survey methods to count and estimate stream salamander populations. Our goals are to determine the status and trends of stream salamanders in the Northeast with long-term monitoring and to assess population sizes in relation to landscape, habitat, and water quality variables.

Project Measures: caudate community composition

Web Link(s): http://armi.usgs.gov/monitoring.asp
http://www.mp2-pwrc.usgs.gov/nearmi/
http://www.mp2-pwrc.usgs.gov/nearmi/projects/ - streamsal

Vernal Pool Amphibians

Project Objective(s): Using egg mass counts as an index of population sizes at vernal pools within National Parks and National Wildlife Refuges in the Northeast.
Our goals are to determine the status and trends of wood frog and spotted salamander populations in the Northeast through long-term monitoring.
to assess species presence and population sizes in relation to surrounding land use, road density or distance to nearest road, proximity to or density of other potential breeding sites, water quality variables, hydroperiod, and climatic conditions.

Project Measures: Amphibian egg mass count

Web Link(s): http://armi.usgs.gov/monitoring.asp
http://www.mp2-pwrc.usgs.gov/nearmi/
http://www.mp2-pwrc.usgs.gov/nearmi/projects/ - eggmasscounts

Roosevelt-Vanderbilt National Historic Sites

Institute for Bird Populations

Monitoring Avian Productivity and Survivorship

Avian Inventory Program

Project Objective(s): indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured.
estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from mark-recapture data on adult birds.

Project Measures: avian distribution and
abundance

Web Link(s): http://www.birdpop.org
http://www.birdpop.org/avianinv.htm
http://www.birdpop.org/maps.htm

National Atmospheric Deposition Program

Atmospheric Integrated Research Monitoring Network (AIRMoN)

AIRMonN-Wet & AIRMoN-Dry

Project Objective(s): Determining the effectiveness of emission controls mandated by the Clean Air Act.
Evaluating the potential impacts of new sources of emissions on protected areas such as Class I Wilderness Areas.
Identifying source/receptor relationships in atmospheric models.
AIRMoN was designed to provide data with a greater temporal resolution.

Project Measures: Precipitation composition | nitrogen | Ozone
sulfur dioxide | gaseous nitric acid

Web Link(s): http://nadp.sws.uiuc.edu/airmon/

Mercury Deposition Network (MDN)

Project Objective(s): The objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition.
The data will be used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Project Measures: mercury monitoring | Precipitation composition | methylmercury

Web Link(s): http://nadp.sws.uiuc.edu/mdn/

New York Audubon

Important Bird Areas (IBA)

Project Objective(s): Identify a network of sites that are essential for sustaining naturally occurring populations of bird species, and to protect or manage these sites for the long-term conservation of birds, other wildlife, and their habitats.

Project Measures: breeding | Habitat usage

Web Link(s): http://ny.audubon.org/iba/index.html

New York State Department of Environmental Conservation

Natural Heritage Program

Ecological Communities

Project Objective(s): An ecological community is a variable assemblage of interacting plant and animal populations that share a common environment; in NY a classification has been developed to help assess and protect the biological diversity of the state.

Project Measures: Community composition

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/heritage/
http://www.dec.state.ny.us/website/dfwmr/heritage/ecology.htm

New York State Department of Environmental Conservation

New York Natural Heritage Program

Herp Atlas

Project Objective(s): Herp Atlas was a ten year survey that was designed to document the geographic distribution of New York State's herpetofauna.

Project Measures: herptile distribution and abundance

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/wildlife/herp/

Rare Animal Species

Project Objective(s): Actively surveys rare animal species of all vertebrate groups and selected rare species from the invertebrate groups.

Project Measures: rare vertebrate distribution and abundance; rare invertebrate distribution and abundance

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/heritage/animallist.pdf
http://www.dec.state.ny.us/website/dfwmr/heritage/
http://www.dec.state.ny.us/website/dfwmr/heritage/animals.htm

Rare Plant Species

Project Objective(s): The New York Natural Heritage Program keeps track of the status of the state's rare flowering plants, conifers, ferns and fern allies, and mosses.

Project Measures: rare plant distribution and abundance

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/heritage/plants.htm
http://www.dec.state.ny.us/website/dfwmr/heritage/index.htm

U.S. Forest Service

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.

Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.

Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures: Soil characteristics; Tree condition; Lichens; Air quality

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/

Saint-Gaudens National Historic Site

Institute for Bird Populations

Monitoring Avian Productivity and Survivorship

Avian Inventory Program

Project Objective(s): indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured.
estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from mark-recapture data on adult birds.

Project Measures: avian distribution and abundance

Web Link(s): http://www.birdpop.org
http://www.birdpop.org/avianinv.htm
http://www.birdpop.org/maps.htm

Long Term Ecological Research Network

Hubbard Brook

Project Objective(s): Core Research Questions : (i) Dynamic patterns and control of primary production, over time, and in relation to natural and induced stresses or disturbances; (ii) Dynamics of selected populations of seed plants, saprophytic organisms, invertebrates, fish, birds and mammals in relation to time as well as natural and induced stresses or disturbances; (iii) Patterns and control of organic accumulation (biomass) in surface layers and substrate (or sediment) in relation to time or natural and Induced stresses or disturbances; (iv) Patterns of inorganic contributions (atmospheric or hydrologic) and movement through soils, groundwater, streams and lakes in relation to time and natural or induced stresses or disturbances; (v) Patterns and frequency of apparent site interventions (disturbances) over space and time (drought, fire, windthrow, insects or other perturbations) that may be a product of, or induce, long-term trends.

Project Measures:

Climate	Weather	Hydrology
Forest community composition and distribution	Habitat classification/profiling	Natural communities
Water chemistry		

Web Link(s): www.hubbardbrook.org

New Hampshire Audubon

Backyard Bird Survey

Backyard Winter Bird Survey

Project Objective(s): Backyard Winter Bird Survey participants report any bird species visiting their yard and/or feeders in New Hampshire on the second weekend of February. Originally begun as a "Cardinal-Tufted Titmouse Census," it was expanded in 1987 to gather information on the distribution and abundance of many winter species in New Hampshire.

Project Measures: avian distribution and abundance

Web Link(s): http://www.nhaudubon.org

Important Bird Areas (IBA)

Project Objective(s): The goal of the program is to identify and conserve areas that are critical to one or more bird species for breeding, feeding, wintering, or migration.

Project Measures: breeding; Habitat usage

Web Link(s): http://www.nhaudubon.org/birdinfo/iba.htm
http://www.nhaudubon.org/

New Hampshire Division of Forests and Lands

Natural Heritage Bureau

Natural Communities

Project Objective(s): The NH Natural Heritage Bureau tracks "exemplary" natural community occurrences.
To qualify as exemplary, a natural community in a given place must be of a rare type, such as a pitch pine/scrub oak barrens, or must be an exceptional occurrence of a common type, such as an old growth spruce/fir forest.

Project Measures:

Community composition	Wetland community composition and distribution	Forest community composition and distribution
Grassland community composition and distribution		

Web Link(s): http://www.nhdfl.org/formgt/nhiweb/

Rare Animal Species

Project Objective(s): The NH Natural Heritage Bureau tracks rare animal species.

Project Measures: rare vertebrate distribution and abundance; rare invert distribution

Web Link(s): http://www.nhdfl.org/formgt/nhiweb/

Rare Plant Species

Project Objective(s): The NH Natural Heritage Bureau tracks the state's rarest and most imperiled plant species.

Project Measures: rare plant distribution and abundance

Web Link(s): http://www.nhdfl.org/formgt/nhiweb/

U.S. Fish and Wildlife Service

Gulf of Maine Coastal Program

Gulf of Maine Watershed Habitat Analysis

Project Objective(s): Identified, mapped, and ranked important fish and wildlife habitat for priority species throughout the Gulf of Maine watershed.

Project Measures: Habitat usage; fish distribution and abundance; waterfowl reproductive success

Web Link(s): http://gulfofmaine.fws.gov/gomanalysis/gomanalysis.html
http://gulfofmaine.fws.gov/gomanalysis/documents/gomanalysis.pdf

U.S. Forest Service

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.

Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.

Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures: Soil characteristics; Tree condition; Lichens; Air quality

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/

U.S. Geologic Survey

North American Breeding Bird Survey

North American Breeding Bird Survey

Project Objective(s): To monitor the status and trends of North American bird populations.

Project Measures: avian distribution and abundance

Web Link(s): http://www.mp2-pwrc.usgs.gov/bbs/

Vermont Department of Environmental Conservation

Air Pollution Control Division

Ambient Air Toxics Monitoring in Vermont

Project Objective(s): The Vermont Air Pollution Control Division (APCD) has been monitoring a battery of toxics in the ambient air at several locations in the state since 1993.

The toxics monitored include volatile organic compounds (VOCs), carbonyls, metals and semi-volatiles.

Project Measures: toxic elements; Carbon monoxide; Ozone; Nitrogen Oxides; particulate matter; sulfur dioxide

Web Link(s): http://www.anr.state.vt.us:8500/public/dec/air/Planning/htm/AirToxMonitoring.htm

Vermont Institute of Natural Science

Mountain Bird Watch

Mountain Bird Watch

Project Objective(s): Mountain Birdwatch is a long-term monitoring program for songbirds that breed in high-elevation forests of the Northeast. Skilled volunteers conduct annual surveys along 1-km routes that are located on mountains in New York, Vermont, New Hampshire, and Maine. Primary emphasis is placed on Bicknell's Thrush, the region's only endemic bird species, and a montane fir specialist that is vulnerable to ongoing and projected habitat loss. Other focal species include Blackpoll Warbler, Swainson's Thrush, White-throated Sparrow, and Winter Wren. In 2002, Mountain Birdwatchers gathered observations from 142 locations, with point count surveys completed on 118 routes.

Project Measures: avian distribution and abundance

Web Link(s): http://www.vinsweb.org/cbd/mtn_birdwatch.html

Vermont Butterfly Survey

Project Objective(s): The Vermont Butterfly Survey is a five-year census to document the relative abundance and distribution of butterflies across Vermont.
To learn which butterfly species exist in Vermont.
Allow Vermonters to contribute to a greater understanding of the nature of their state.

Project Measures: lepidopteron distribution and abundance

Web Link(s): http://www.uvm.edu/~vbap/index.html

Vermont Monitoring Cooperative

Basic Meteorological Monitoring

Project Objective(s): The continuous monitoring of a variety of meteorological variables.
The information collected at this site can be used in conjunction with biological or physical information gathered in other projects at or near the site.

Project Measures:

Temperature	Wind direction	Wind speed
Relative humidity	Barometric pressure	Precipitation

Web Link(s): http://vmc.snr.uvm.edu/summary/general006.htm

Forest Bird Monitoring

Project Objective(s): To determine long-term bird population changes in protected, non-fragmented habitats.
Results will help provide insights into how forest fragmentation in unprotected areas may affect the relative abundance of forest-breeding songbirds.

Project Measures:

avian distribution and abundance	breeding	Habitat usage
Habitat classification/profiling		

Web Link(s): http://vmc.snr.uvm.edu/bird.html
http://vmc.snr.uvm.edu/summary/general013.htm

Pine Mountain Biodiversity Project

Project Objective(s): The variety of plants and animals, their genetic variability, their interrelationships, and the biological and physical systems, communities and landscapes in which they exist.

Project Measures:

Species diversity	Natural communities	Geology
Water resources	Climate	

Web Link(s): http://vmc.snr.uvm.edu/summary/generalpineMT.htm

Saratoga National Historic Park

Institute for Bird Populations

Monitoring Avian Productivity and Survivorship

Avian Inventory Program

Project Objective(s): indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured.
estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from mark-recapture data on adult birds.

Project Measures: avian distribution and
abundance

Web Link(s): http://www.birdpop.org
http://www.birdpop.org/avianinv.htm
http://www.birdpop.org/maps.htm

National Atmospheric Deposition Program

Atmospheric Integrated Research Monitoring Network (AIRMoN)

AIRMonN-Wet & AIRMoN-Dry

Project Objective(s): Determining the effectiveness of emission controls mandated by the Clean Air Act.
Evaluating the potential impacts of new sources of emissions on protected areas such as Class I Wilderness Areas.
Identifying source/receptor relationships in atmospheric models.
AIRMoN was designed to provide data with a greater temporal resolution.

Project Measures: Precipitation composition | nitrogen | Ozone
sulfur dioxide | gaseous nitric acid

Web Link(s): http://nadp.sws.uiuc.edu/airmon/

Mercury Deposition Network (MDN)

Project Objective(s): The objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition.
The data will be used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Project Measures: mercury monitoring | Precipitation composition | methylmercury

Web Link(s): http://nadp.sws.uiuc.edu/mdn/

New York Audubon

Important Bird Areas (IBA)

Project Objective(s): Identify a network of sites that are essential for sustaining naturally occurring populations of bird species, and to protect or manage these sites for the long-term conservation of birds, other wildlife, and their habitats.

Project Measures: breeding | Habitat usage

Web Link(s): http://ny.audubon.org/iba/index.html

New York State Department of Environmental Conservation

Natural Heritage Program

Ecological Communities

Project Objective(s): An ecological community is a variable assemblage of interacting plant and animal populations that share a common environment; in NY a classification has been developed to help assess and protect the biological diversity of the state.

Project Measures: Community composition

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/heritage/
http://www.dec.state.ny.us/website/dfwmr/heritage/ecology.htm

New York State Department of Environmental Conservation

New York Natural Heritage Program

Herp Atlas

Project Objective(s): Herp Atlas was a ten year survey that was designed to document the geographic distribution of New York State's herpetofauna.

Project Measures: herptile distribution and abundance

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/wildlife/herp/

Rare Animal Species

Project Objective(s): Actively surveys rare animal species of all vertebrate groups and selected rare species from the invertebrate groups.

Project Measures: rare vertebrate distribution and abundance; rare invertebrate distribution and abundance

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/heritage/animallist.pdf
http://www.dec.state.ny.us/website/dfwmr/heritage/
http://www.dec.state.ny.us/website/dfwmr/heritage/animals.htm

Rare Plant Species

Project Objective(s): The New York Natural Heritage Program keeps track of the status of the state's rare flowering plants, conifers, ferns and fern allies, and mosses.

Project Measures: rare plant distribution and abundance

Web Link(s): http://www.dec.state.ny.us/website/dfwmr/heritage/plants.htm
http://www.dec.state.ny.us/website/dfwmr/heritage/index.htm

U.S. Forest Service

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.

Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.

Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures: Soil characteristics; Tree condition; Lichens; Air quality

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/

Saugus Ironworks National Historic Site

Institute for Bird Populations

Monitoring Avian Productivity and Survivorship

Avian Inventory Program

Project Objective(s): indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured.
estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from mark-recapture data on adult birds.

Project Measures: avian distribution and abundance

Web Link(s): http://www.birdpop.org
http://www.birdpop.org/avianinv.htm
http://www.birdpop.org/maps.htm

Massachusetts Audubon

Important Bird Areas (IBA)

Project Objective(s): To identify, nominate, and designate key sites that contribute to the preservation of significant bird populations or communities.
To provide information that will help land managers evaluate areas for habitat management and/or land acquisition.
To activate public and private participation in bird conservation efforts.
To provide public education and community outreach opportunities.

Project Measures: avian distribution and abundance | Habitat usage | threatened & endangered
breeding

Web Link(s): http://www.massaudubon.org/index.php
http://www.massaudubon.org/Birds_&_Beyond/IBAs/index.php

Massachusetts Department of Environmental Protection

Air Program Planning Unit

Addressing Air Toxics in Massachusetts

Project Objective(s): In order to protect the health of Massachusetts' residents and preserve our environment; aims to reduce the emissions and ambient air impact of a number of toxic air pollutants likely to be used by business, industry, and individuals in the state.
TURA (Massachusetts Toxic Use Reduction Act)focusing on pollution prevention as a way to comply with regulatory standards while increasing the economic competitiveness of Massachusetts industry.
Ozone Reduction is the reduction of volatile organic compound (VOCs) emissions from a variety of sources, including industry and mobile sources.

Project Measures: polycyclic aromatic hydrocarbons | Chromium | benzene
toluene | xylenes | perchloroethylene
methylene chloride | Cadmium | mercury monitoring

Web Link(s): http://www.state.ma.us/dep/bwp/daqc/files/airtox.htm

Wetlands Conservancy Program

Project Objective(s): The DEP is mapping the state's wetlands using aerial photography and photointerpretation to delineate wetland boundaries which is used to document the extent and type of the state's wetlands.

Project Measures: Wetland community composition and distribution

Web Link(s): http://www.state.ma.us/dep/brp/
http://www.state.ma.us/dep/brp/ww/rpwwhome.htm
http://www.state.ma.us/dep/brp/ww/files/wcpbroch.pdf

Massachusetts Division of Fisheries and Wildlife

Natural Heritage & Endangered Species Program

Natural Communities

Project Objective(s): The Massachusetts Natural Heritage Program actively inventories and tracks the distribution and status of uncommon and exemplary natural communities across the state.
Conservation priority should be given to: natural communities with limited distribution across ecoregions within the state, those with restricted global distribution, and those common types for which the best documented examples occur in Massachusetts.

Project Measures: Rare community distribution and composition

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhcommun.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Rare Animal Species

Project Objective(s): The Program's highest priority is protecting the approximately 190 species of vertebrate and invertebrate animals that are officially listed as endangered, threatened or of special concern in Massachusetts.

Project Measures: rare vertebrate distribution and abundance; rare invertebrate distribution and abundance

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhspecies.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Rare Plant Species

Project Objective(s): The Program's highest priority is protecting the approximately 258 species of native plants that are officially listed as Endangered, Threatened or of Special Concern in Massachusetts.

Project Measures: rare plant distribution and abundance; Habitat usage

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhspecies.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

Vernal Pools

Project Objective(s): The NHESP serves the important role of officially "certifying" vernal pools that are documented by citizens. Finding vernal pools is the first step for protection.

Project Measures: Rare community distribution and composition; Habitat usage; Wetland community composition and distribution

Web Link(s): http://www.state.ma.us/dfwele/dfw/nhesp/nhvernal.htm
http://www.state.ma.us/dfwele/dfw/nhesp/nhesp.htm

National Atmospheric Deposition Program

Mercury Depostion Network (MDN)

Project Objective(s): The objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition.
The data will be used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Project Measures: mercury monitoring; Precipitation composition; methylmercury

Web Link(s): http://nadp.sws.uiuc.edu/mdn/

National Oceanic and Atmospheric Administration

Marine Monitoring Programs in the Gulf of Maine

MARMAP

Project Objective(s): 1)Assess the seasonal, interannual, and decadal variability in the planktonic and oceanographic components of the Northeast Shelf Ecosystem.
2) characterize changes in these variables as an indication of broad-scale ecological and environmental changes.
3) develop appropriate indices of the changing states of the marine ecosystem.

Project Measures: Phytoplankton; Zooplankton abundance and composition; Water column temperature; Surface salinity; Meteorological conditions

Web Link(s): http://www.stat.psu.edu/~gpp/marmap_system_partnership.htm
http://gulfofmaine.org/library/pdf/mon_inventory.pdf
http://gulfofmaine.org/library/monitoring_inventory.html

U.S. Army Corps of Engineers

Disposal Area Monitoring System (DAMOS)

New England District

Project Objective(s): Manage and monitor offshore dredged material disposal sites from Long Island Sound to Maine.

Project Measures: Sediment contaminant composition

Web Link(s): http://www.nae.usace.army.mil/environm/damos/splash_page.htm

U.S. Fish and Wildlife Service

Gulf of Maine Coastal Program

Gulf of Maine Watershed Habitat Analysis

Project Objective(s): Identified, mapped, and ranked important fish and wildlife habitat for priority species throughout the Gulf of Maine watershed.

Project Measures: Habitat usage; fish distribution and abundance; waterfowl reproductive success

Web Link(s): http://gulfofmaine.fws.gov/gomanalysis/gomanalysis.html
http://gulfofmaine.fws.gov/gomanalysis/documents/gomanalysis.pdf

U.S. Forest Service

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.

Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.

Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures: Soil characteristics; Tree condition; Lichens; Air quality

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/

U.S. Geologic Survey

North American Breeding Bird Survey

North American Breeding Bird Survey

Project Objective(s): To monitor the status and trends of North American bird populations.

Project Measures: avian distribution and abundance

Web Link(s): http://www.mp2-pwrc.usgs.gov/bbs/

Weir Farm National Historic Site

Connecticut Audubon

Important Bird Areas (IBA)

Project Objective(s): Sites that are important to endangered or threatened species, species of high conservation priority that contain rare habitat.

Project Measures: avian distribution and abundance

Web Link(s): http://greenwich.center.audubon.org/
http://greenwich.center.audubon.org/research.html

Connecticut Department of Environmental Conservation / U.S. Environmental Protection Agency

Air Program Planning Unit

CONNECTICUT'S MANAGEMENT OF TOXIC AIR POLLUTANTS

Project Objective(s): The Department has taken a proactive and innovative approach to monitoring for toxic chemicals in the ambient air.
monitoring of ozone and its precursors in areas with persistently high ozone levels. The purpose of this program is to measure changes in levels of these pollutants.
Dioxin ambient monitoring program show statewide compliance with the annual average ambient air limit of one picogram (one trillionth of a gram) per cubic meter for dioxin.
A three-year ambient air monitoring project was initiated in 1996. Eight monitoring stations have been established to measure atmospheric mercury concentrations as well as to evaluate both wet and dry deposition of mercury.
Stack Monitoring: five years of monitoring have revealed that all waste combustion facilities have consistently operated in compliance with Connecticut's Air Toxics Control regulation.
Five years of monitoring have revealed that all waste combustion facilities have consistently operated in compliance with Connecticut's Air Toxics Control regulation.

Project Measures:

Nickel	Dioxin	formaldehyde
benzene	toluene	mercury monitoring
Arsenic	Beryllium	Cadmium
Chromium	Lead	Manganese

Web Link(s): http://dep.state.ct.us/air2/toxics/monitiat.htm

Connecticut Department of Environmental Protection

Environmental and Geographic Information Center

Connecticut Butterfly Atlas

Project Objective(s): Collect data, in the form of vouchers and field forms, over one or more of five field seasons from 1995 through 1999. Vouchers are either specimens or photographs, and provide the information needed to produce a map of each species' distribution.

Project Measures:

lepidopteron distribution and abundance	Invertebrate distribution and status

Web Link(s): http://george.peabody.yale.edu/cbap/
http://dep.state.ct.us/cgnhs/nddb/Nddb2.htm

Rare Animal Species

Project Objective(s): To conserve, protect, restore and enhance any endangered or threatened species and their essential

Project Measures:

rare vertebrate distribution and abundance	rare invertebrate distribution and abundance

Web Link(s): http://dep.state.ct.us/cgnhs/nddb/nddb2.htm
http://dep.state.ct.us/cgnhs/index.htm

Rare Plant Species

Project Objective(s): Conserve, protect, restore and enhance any endangered or threatened species and their essential habitat.

Project Measures: rare plant distribution and abundance

Web Link(s): http://dep.state.ct.us/cgnhs/nddb/nddb2.htm
http://dep.state.ct.us/cgnhs/index.htm

Connecticut Department of Environmental Protection

Environmental and Geographic Information Center

Whip-poor-Will and Nighthawk Survey

Project Objective(s): Survey these species to determine whether or not the birds are undergoing a decline in their populations. Both species have been listed as a state species of special concern since 1991.

Project Measures: avian distribution and abundance breeding

Web Link(s): http://dep.state.ct.us/cgnhs/nddb/volun.htm
http://dep.state.ct.us/cgnhs/nddb/nddb2.htm
http://dep.state.ct.us/cgnhs/index.htm

Institute for Bird Populations

Monitoring Avian Productivity and Survivorship

Avian Inventory Program

Project Objective(s): indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured.
estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from mark-recapture data on adult birds.

Project Measures: avian distribution and abundance

Web Link(s): http://www.birdpop.org
http://www.birdpop.org/avianinv.htm
http://www.birdpop.org/maps.htm

National Atmospheric Deposition Program

Mercury Depostion Network (MDN)

Project Objective(s): The objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition.
The data will be used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Project Measures: mercury monitoring Precipitation composition methylmercury

Web Link(s): http://nadp.sws.uiuc.edu/mdn/

U.S. Army Corps of Engineers

Disposal Area Monitoring System (DAMOS)

New England District

Project Objective(s): Manage and monitor offshore dredged material disposal sites from Long Island Sound to Maine.

Project Measures: Sediment contaminant composition

Web Link(s): http://www.nae.usace.army.mil/environm/damos/splash_page.htm

U.S. Forest Service

Forest Health Monitoring

Forest Inventory and Analysis

Project Objective(s): The Forest Inventory and Analysis Program tracks 3 Criteria and 67 Indicators. Criteria are: 1)Conservation of Biological Diversity; 2) Maintenance of Productive Capacity of Forest Ecosystems; 3)Maintenance of Forest Ecosystem Health & Vitality.
Collect and disseminate information about the forests of the Northeastern United States relating to forest distribution, forest condition, ownership patterns, timber utilization, and forest mensuration techniques.
Develop and apply scientific knowledge and technology in support of the inventory and analysis project.

Project Measures: Soil characteristics Tree condition Lichens
Air quality

Web Link(s): http://www.fs.fed.us/projects/
http://fia.fs.fed.us/rpa.htm
http://www.fs.fed.us/ne/fia/
http://www.fs.fed.us/research/sustain/